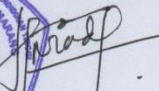
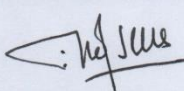


LAMPIRAN

Lampiran 1. Determinasi Tanaman

 UNNES UNIVERSITAS NEGERI SEMARANG	KEMENTERIAN RISET, TEKNOLOGI, DAN PENDIDIKAN TINGGI UNIVERSITAS NEGERI SEMARANG FAKULTAS MATEMATIKA DAN ILMU PENGETAHUAN ALAM LABORATORIUM JURUSAN BIOLOGI Alamat : Gedung D11 FMIPA UNNES Kampus Sekaran Gunungpati Semarang 50229 website : biologi.unnes.ac.id, email : labbiologi.unnes@yahoo.com																
Semarang, 24 Januari 2018																	
No. : 73 /UN/37.1.4.5/LT/2018 Lampiran : - Perihal : Hasil identifikasi tumbuhan																	
Kepada Yth. Sdr. Memi Tiastuti – NIM. 33101400306 Mahasiswa Program Studi Farmasi - Fakultas Kedokteran Universitas Islam Sultan Agung (UNISSULA) Semarang																	
Dengan hormat, Bersama ini kami sampaikan hasil identifikasi tumbuhan yang Saudara kirimkan ke Laboratorium Taksonomi Tumbuhan Jurusan Biologi-FMIPA Universitas Negeri Semarang (UNNES), adalah sebagai berikut.																	
TAKSON	<table border="0"> <tr> <td style="text-align: center;">SPESIMEN 1</td> <td style="text-align: center;">SPESIMEN 2</td> </tr> <tr> <td>Divisio : Magnoliophyta</td> <td>: Magnoliophyta</td> </tr> <tr> <td>Classis : Magnoliopsida</td> <td>: Magnoliopsida</td> </tr> <tr> <td>SubClassis : Hamamelidae</td> <td>: Asteridae</td> </tr> <tr> <td>Ordo : Urticales</td> <td>: Scrophulariales</td> </tr> <tr> <td>Familia : Moraceae</td> <td>: Oleaceae</td> </tr> <tr> <td>Genus : Ficus</td> <td>: Olea</td> </tr> <tr> <td>Species : <i>Ficus carica</i> L.</td> <td>: <i>Olea europaea</i> L.</td> </tr> </table>	SPESIMEN 1	SPESIMEN 2	Divisio : Magnoliophyta	: Magnoliophyta	Classis : Magnoliopsida	: Magnoliopsida	SubClassis : Hamamelidae	: Asteridae	Ordo : Urticales	: Scrophulariales	Familia : Moraceae	: Oleaceae	Genus : Ficus	: Olea	Species : <i>Ficus carica</i> L.	: <i>Olea europaea</i> L.
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Vern. name : Tin/ <i>Edible fig</i> : Zaitun/ <i>Olive</i>																	
Demikian, semoga berguna bagi Saudara.																	
Mengetahui - Ketua Jurusan Biologi FMIPA UNNES  Dra. Endah Peniati, M.Si. NIP. 196511161991032001	Kepala Laboratorium Biologi  Dr. Ning Setiati, M.Si. NIP. 195903101987032001																

Lampiran 2. Ethical Clearance

KOMISI BIOETIKA PENELITIAN KEDOKTERAN/KESEHATAN
FAKULTAS KEDOKTERAN
UNIVERSITAS ISLAM SULTAN AGUNG SEMARANG
 Sekretariat : Gedung C Lantai I Fakultas Kedokteran Unissula
 Jl. Raya Kaligawe Km 4 Semarang, Telp. 024-6583584, Fax 024-6594366

Ethical Clearance

No. 40/I/2018/Komisi Bioetik

Komisi Bioetika Penelitian Kedokteran/Kesehatan Fakultas Kedokteran Universitas Islam Sultan Agung Semarang, setelah melakukan pengkajian atas usulan penelitian yang berjudul :

**UJI AKTIVITAS ANTIOKSIDAN DAN UJI SITOTOKSIK KOMBINASI EKSTRAK
 BUAH TIN (*Ficus carica* L.) DAN MINYAK ZAITUN (*Olea europaea* L.)
 TERHADAP SEL KANKER PAYUDARA MCF-7**

Peneliti Utama : Memi Tiastuti
 Pembimbing : Dr. Naniek Widyaningrum, M.Sc., Apt
 Dr. Atina Hussaana, M.Sc., Apt
 Tempat Penelitian : Lab. Biologi FMIPA UNNES
 Lab. Farmasi dan Lab. Kimia FK UNISSULA
 Lab. Parasitologi FK UGM Yogyakarta

dengan ini menyatakan bahwa usulan penelitian diatas telah memenuhi prasyarat etik penelitian. Oleh karena itu Komisi Bioetika merekomendasikan agar penelitian ini dapat dilaksanakan dengan mempertimbangkan prinsip-prinsip yang dinyatakan dalam Deklarasi Helsinki dan panduan yang tertuang dalam Pedoman Nasional Etik Penelitian Kesehatan (PNEPK) Departemen Kesehatan RI tahun 2004.

Semarang, 27 Januari 2018
 Komisi Bioetika Penelitian Kedokteran/Kesehatan
 Fakultas Kedokteran Unissula
 Ketua,


 (dr. Sofwan Dahlan, Sp.F(K))

Lampiran 3. Uji Kadar Ekstrak Etanolik Buah Tin

SHIMADZU CORP.
TYPE MOC63u
SN D209402743
ID 0000
CODE 0013
DATE 18-03-06
TIME 10:43
PNO. 1
UNIT M/W
MODE TIME
TEMP 120C
STOP 00:15

Wet W(g) 5.001

TIME	M/W(%)
00:00:00	0.00
*00:15:00	6.08

Dry W(g) 4.697

→ Kadar air ekstrak kental

Lampiran 4. Skrining Fitokimia



YAYASAN BADAN WAKAF SULTAN AGUNG
UNIVERSITAS ISLAM SULTAN AGUNG (UNISSULA)
 Jl. Raya Kaligawe Km 4 Semarang 50112 Telp. (024) 6583584 (8 Sal) Fax. (024) 6582455
 email: informasi@unissula.ac.id web : www.unissula.ac.id



56
 MUHARRAM
 ULAHATY COMPEDE

PRODI FARMASI FK

Bismillah Membangun Generasi Khaira Ummah

LAPORAN HASIL UJI

No. Sertifikat : 84/LPF/II/2018

Informasi Peneliti

Nama : Memi Tiastuti Tanggal Pengujian: 9 Februari 2018

NIM : 33101400306

Hasil Pengujian

Skrining Fitokimia Ekstrak Buah Tin (*Ficus carica* L.) Dan Minyak Zaitun (*Olea europaea* L.):

Parameter Uji	Reagen	Hasil Identifikasi	Metode	Kesimpulan
Flavonoid Ekstrak Buah Tin	H ₂ SO ₄ 2N	Coklat Tua	Tabung	Positif
Flavonoid Minyak Zaitun	H ₂ SO ₄ 2N	Coklat Tua	Tabung	Positif

Laboran Prodi Farmasi
 FK UNISSULA



Ivanic Putri A, Amd. AK

Semarang, 16 April 2018
 Kepala Laboratorium Prodi Farmasi
 FK UNISSULA



Ika Buana Januarti, M.Sc., Apt
 NIK. 211213007

Lampiran 5. Uji Flavonoid Total Ekstrak Etanolik Buah Tin

Perhitungan Konsentrasi Ekstrak Buah Tin dan Minyak Zaitun

$$\text{Konsentrasi ekstrak (\%)} = \frac{0.001 \text{ g}}{1 \text{ ml}} \times 100\% = 0,1\%$$

Setara dengan

Konsentrasi sampel uji = 1 mg/ml

Pembuatan Absorbansi Larutan Sampel

1 ml larutan sampel + 0,3 ml NaNO_2 5% + 0,3 ml AlCl_3 10% + 2 ml NaOH 1 M + ad 10 ml aquadest

Pembuatan Larutan Baku Kuersetin

$$\text{Konsentrasi 1000 ppm Kuersetin} = \frac{10 \text{ mg}}{10 \text{ ml}} = 1 \text{ mg/ml} = 1000 \mu\text{g/ml}$$

Pembuatan Larutan Standar

Konsentrasi 20 ppm Kuersetin	= $V_1.C_1$	= $V_2. C_2$
	= $V_1. 1000 \text{ ppm}$	= $10 \text{ ml} . 20 \text{ ppm}$
	= V_1	= $\frac{10 \text{ ml}.20 \text{ ppm}}{1000 \text{ ppm}}$
	= V_1	= 0,2 ml
Konsentrasi 40 ppm Kuersetin	= $V_1.C_1$	= $V_2. C_2$
	= $V_1. 1000 \text{ ppm}$	= $10 \text{ ml} . 40 \text{ ppm}$
	= V_1	= $\frac{10 \text{ ml}.40 \text{ ppm}}{1000 \text{ ppm}}$
	= V_1	= 0,4 ml
Konsentrasi 60 ppm Kuersetin	= $V_1.C_1$	= $V_2. C_2$
	= $V_1. 1000 \text{ ppm}$	= $10 \text{ ml} . 60 \text{ ppm}$

$$\begin{aligned}
 &= V1 &= \frac{10 \text{ ml} \cdot 60 \text{ ppm}}{1000 \text{ ppm}} \\
 &= V1 &= 0,6 \text{ ml} \\
 \text{Konsentrasi 80 ppm Kuersetin} &= V1.C1 &= V2. C2 \\
 &= V1. 1000 \text{ ppm} &= 10 \text{ ml} \cdot 80 \text{ ppm} \\
 &= V1 &= \frac{10 \text{ ml} \cdot 80 \text{ ppm}}{1000 \text{ ppm}} \\
 &= V1 &= 0,8 \text{ ml} \\
 \text{Konsentrasi 100 ppm Kuersetin} &= V1.C1 &= V2. C2 \\
 &= V1. 1000 \text{ ppm} &= 10 \text{ ml} \cdot 100 \text{ ppm} \\
 &= V1 &= \frac{10 \text{ ml} \cdot 100 \text{ ppm}}{1000 \text{ ppm}} \\
 &= V1 &= 1 \text{ ml}
 \end{aligned}$$

Kurva Kalibrasi

1 ml larutan standar + 0,3 ml NaNO₂ 5% + 0,3 ml AlCl₃ 10% + 2 ml NaOH 1 M + ad 10 ml aquadest

Larutan Blangko

0,3 ml NaNO₂ 5% + 0,3 ml AlCl₃ 10% + 2 ml NaOH 1 M + ad 10 ml aquadest

Pembuatan NaNO₂ 5%

$$\text{NaNO}_2 \text{ 5\% p.a} = \frac{5 \text{ g NaNO}_2}{100 \text{ ml Aquadest}}$$

Pembuatan AlCl₃ 10 %

$$\text{AlCl}_3 \text{ 10 \% p.a} = \frac{10 \text{ g AlCl}_3}{100 \text{ ml aquadest}}$$

Pembuatan NaOH 1 M

$$M = \frac{g}{mr} \times \frac{1000}{ml}$$

$$1 = \frac{g}{40} \times \frac{1000}{2}$$

$$1 = \frac{1000 g}{80}$$

$$1 = 12,5 \text{ g}$$

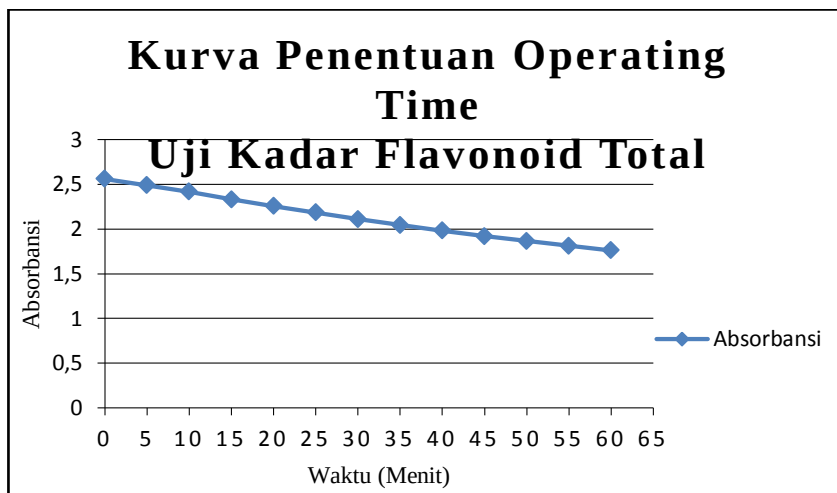
$$g = \frac{1}{12,5}$$

$$g = 0,08 \text{ gram}$$

Penentuan *Operating Time* Kadar

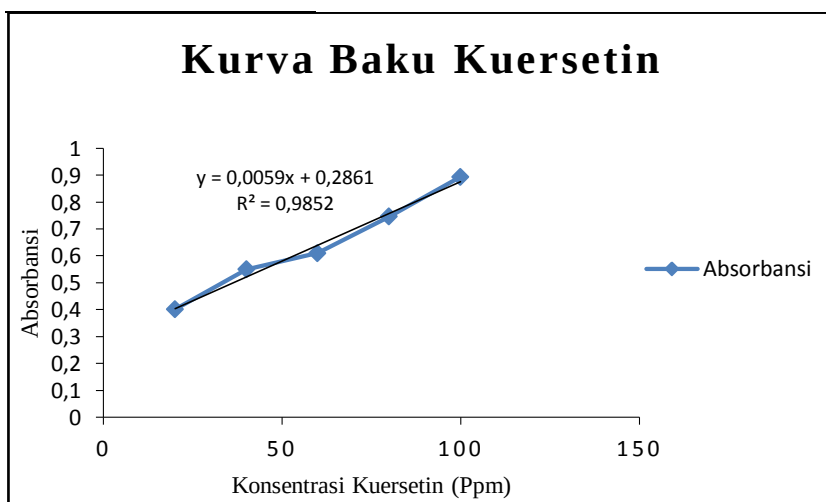
Flavonoid Total

Absorbansi	Menit Ke-
2,5613	0
2,4893	5
2,4181	10
2,3299	15
2,2558	20
2,1840	25
2,1118	30
2,0450	35
1,9827	40
1,9198	45
1,8648	50
1,8136	55
1,7611	60



Kurva Baku Kuersetin

[µg/ml]	A _{510nm}
20	0,4015
40	0,5496
60	0,6101
80	0,7463
100	0,8933



Perhitungan Kadar Flavonoid Total Ekstrak Buah Tin dan Minyak Zaitun

$$A = 0,2861$$

$$B = 0,0059$$

$$R = 0,9852$$

Persamaan regresi linier :

$$y = B\chi + A$$

$$y = 0,0059 \chi + 0,2861$$

y = absorbansi sampel

χ = kadar flavonoid sampel ($\mu\text{g/ml}$)

Hasil Absorbansi Ekstrak Buah Tin (*Ficus carica* L.) dan Minyak Zaitun

Ekstrak Buah Tin				Minyak Zaitun			
Absorbansi			$\bar{x}$ (mg/g)	Absorbansi			$\bar{x}$ (mg/g)
Replikasi 1	Replikasi 2	Replikasi 3		Replikasi 1	Replikasi 2	Replikasi 3	
0,3911	0,3921	0,3925	17,9322	0,4204	0,4169	0,4302	231,1863

Konsentrasi larutan uji = 1 mg/ml

➤ Konsentrasi Flavonoid Total Ekstrak Buah Tin (x)

Replikasi I

$$y = B\chi + A$$

$$y = 0,0059 \chi + 0,2861$$

$$0,3911 = 0,0059 \chi + 0,2861$$

$$0,3911 - 0,2861 = 0,0059 \chi$$

$$0,1050 = 0,0059 \chi$$

$$\chi = \frac{0,1050}{0,0059}$$

$$\chi = 17,7966 \mu\text{g/ml}$$

Replikasi II

$$y = B\chi + A$$

$$y = 0,0059 \chi + 0,2861$$

$$0,3921 = 0,0059 \chi + 0,2861$$

$$0,3921 - 0,2861 = 0,0059 \chi$$

$$0,1060 = 0,0059 \chi$$

$$\chi = \frac{0,1060}{0,0059}$$

$$\chi = 17,9661 \mu\text{g/ml}$$

Replikasi III

$$y = B\chi + A$$

$$y = 0,0059 \chi + 0,2861$$

$$0,3925 = 0,0059 \chi + 0,2861$$

$$0,3925 - 0,2861 = 0,0059 \chi$$

$$0,1064 = 0,0059 \chi$$

$$\chi = \frac{0,1064}{0,0059}$$

$$\chi = 18,0339 \mu\text{g/ml}$$

➤ **Perhitungan Kadar % b/b Flavonoid Total Ekstrak Buah Tin**

Replikasi I

$$\text{Kadar \% b/b} = \frac{\text{Konsentrasi } x V x FP}{\text{Berat Sampel}}$$

$$= \frac{17,7966 \times 0,01 \times 10}{0,01}$$

$$= 177,966 \text{ mg/g}$$

Replikasi II

$$\text{Kadar \% b/b} = \frac{\text{Konsentrasi} \times V \times FP}{\text{Berat Sampel}}$$

$$= \frac{17,7961 \times 0,01 \times 10}{0,01}$$

$$= 179,661 \text{ mg/g}$$

Replikasi III

$$\text{Kadar \% b/b} = \frac{\text{Konsentrasi} \times V \times FP}{\text{Berat Sampel}}$$

$$= \frac{18,0339 \times 0,01 \times 10}{0,01}$$

$$= 180,339 \text{ mg/g}$$

➤ **Rata-rata Kadar \% b/b Flavonoid Total Ekstrak Buah Tin**

$$\text{Rata-rata} = \frac{\sum \text{Kadar \% b/b}}{3}$$

$$= \frac{177,966 + 179,661 + 180,339}{3}$$

$$= 179,322 \text{ mg/g}$$

$$\text{Kadar \% b/b} \pm \text{SD} = 179,322 \text{ mg/g} \pm 1,2223$$

➤ **Konsentrasi Flavonoid Total Minyak Zaitun (x)**

Replikasi I

$$y = Bx + A$$

$$y = 0,0059 x + 0,2861$$

$$0,4204 = 0,0059 \chi + 0,2861$$

$$0,4204 - 0,2861 = 0,0059 \chi$$

$$0,1343 = 0,0059 \chi$$

$$\chi = \frac{0,1343}{0,0059}$$

$$\chi = 22,7627 \mu\text{g/ml}$$

Replikasi II

$$y = B\chi + A$$

$$y = 0,0059 \chi + 0,2861$$

$$0,4169 = 0,0059 \chi + 0,2861$$

$$0,4169 - 0,2861 = 0,0059 \chi$$

$$0,1308 = 0,0059 \chi$$

$$\chi = \frac{0,1308}{0,0059}$$

$$\chi = 22,1695 \mu\text{g/ml}$$

Replikasi III

$$y = B\chi + A$$

$$y = 0,0059 \chi + 0,2861$$

$$0,4302 = 0,0059 \chi + 0,2861$$

$$0,4302 - 0,2861 = 0,0059 \chi$$

$$0,1441 = 0,0059 \chi$$

$$\chi = \frac{0,1441}{0,0059}$$

$$\chi = 24,4237 \mu\text{g/ml}$$

➤ **Perhitungan Kadar % b/b Flavonoid Total Minyak Zaitun**

Replikasi I

$$\begin{aligned}\text{Kadar \% b/b} &= \frac{\text{Konsentrasi} \times V \times FP}{\text{Berat Sampel}} \\ &= \frac{22,7627 \times 0,01 \times 10}{0,01} \\ &= 227,627 \text{ mg/g}\end{aligned}$$

Replikasi II

$$\begin{aligned}\text{Kadar \% b/b} &= \frac{\text{Konsentrasi} \times V \times FP}{\text{Berat Sampel}} \\ &= \frac{22,1695 \times 0,01 \times 10}{0,01} \\ &= 221,695 \text{ mg/g}\end{aligned}$$

Replikasi III

$$\begin{aligned}\text{Kadar \% b/b} &= \frac{\text{Konsentrasi} \times V \times FP}{\text{Berat Sampel}} \\ &= \frac{24,4237 \times 0,01 \times 10}{0,01} \\ &= 244,237 \text{ mg/g}\end{aligned}$$

➤ **Rata-rata Kadar % b/b Flavonoid Total Ekstrak Buah Zaitun**

$$\begin{aligned}\text{Rata-rata} &= \frac{\sum \text{Kadar \% b/b}}{3} \\ &= \frac{227,627 + 221,695 + 244,237}{3} \\ &= 231,1863 \text{ mg/g}\end{aligned}$$

$$\text{Kadar \% b/b} \pm \text{SD} = 231,1863 \text{ mg/g} \pm 11,6849$$

Tabel 1. Hasil Perhitungan Kadar Flavonoid Total

Sampel	Replikasi	Absorbansi	Kandungan Flavonoid (mg/g QE)	Rata – rata (mg/g QE)	SD
Ekstrak Buah Tin	1	0,3911	177,9661	179,3220	1,2222
	2	0,3921	179,6610		
	3	0,3925	180,3390		
Minyak Zaitun	1	0,4204	227,6271	231,1864	11,6851
	2	0,4169	221,6949		
	3	0,4302	244,2373		

Lampiran 6. Perhitungan Rendemen Ekstrak Etanolik Buah Tin

Jumlah rendemen pada ekstrak etanolik buah tin (*Ficus carica*) yaitu 58,34%

$$\% \text{ rendemen} = \frac{\text{Ekstrak Kental}}{\text{Simplisia Kering}} \times 100\%$$

$$\% \text{ rendemen} = \frac{318,70 \text{ g}}{546,25 \text{ g}} \times 100\%$$

$$\% \text{ rendemen} = 58,34 \%$$

Lampiran 7. Perhitungan pada Uji Sitotoksik Ekstrak Buah Tin, Minyak Zaitun dan Kontrol Positif Doxorubicin Terhadap Sel MCF-7**1. Perhitungan Sel MCF-7 dan Jumlah Sel Per Well**

$$\begin{aligned} \text{Rata-rata} &= \frac{\sum \text{sel dalam 4 kuadran hemositometer}}{4} \times 10^4/\text{ml} \\ &= \frac{110}{4} \times 10^4/\text{ml} \\ &= 27,5 \times 10^4/\text{ml} \end{aligned}$$

Jumlah sel MCF-7 yang dibutuhkan per well

$$\begin{aligned} &= \frac{10^4 \times \text{jml well}}{\text{rata-rata} \times 10^4} \\ &= \frac{10^4 \times 100}{27,5 \times 10^4} \\ &= 3,7 \text{ mL sel ad } 10 \text{ mL MK DMEM} \\ &= 3,7 \text{ mL} \end{aligned}$$

2. Prepare Sampel Ekstrak Tin dan Minyak Zaitun

Menimbang ± 10 mg sampel di larutkan dalam 100 μl DMSO

$$= 10 \text{ mg}/100 \mu\text{l}$$

$$= 10000 \mu\text{g}/100 \mu\text{l}$$

$$= 100.000 \mu\text{g}/\text{mL}$$

3. Preparasi Stok Sampel

- Pembuatan Stok Sampel Ekstrak Buah Tin dan Minyak Zaitun

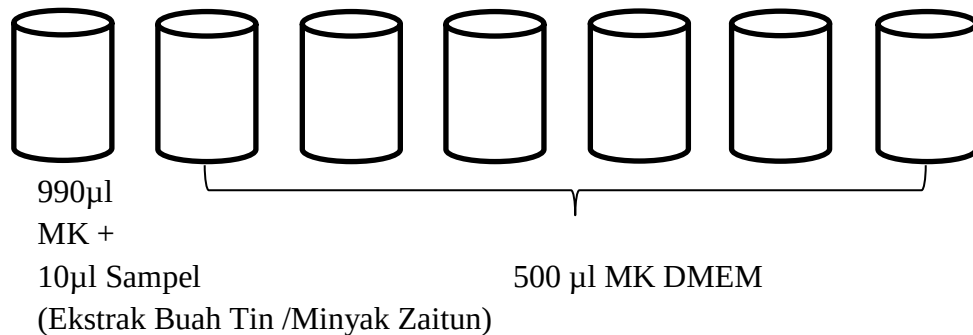
Konsentrasi sampel = 100.000 $\mu\text{g}/\text{mL}$

$$= V1 \cdot N1 = V2 \cdot N2$$

$$= 1000 \mu\text{l} \cdot 1000 \text{ ppm} = V2 \cdot 100.000 \text{ ppm}$$

$$V2 = 10 \mu\text{l} + 990 \text{ MK DMEM}$$

Dengan konsentrasi berturut- turut = 1000 $\mu\text{g}/\text{ml}$; 500 $\mu\text{g}/\text{ml}$; 250 $\mu\text{g}/\text{ml}$; 125 $\mu\text{g}/\text{ml}$; 62,5 $\mu\text{g}/\text{ml}$; 31,25 $\mu\text{g}/\text{ml}$



- Pembuatan Larutan Stok Kontrol Positif Doxorubicin

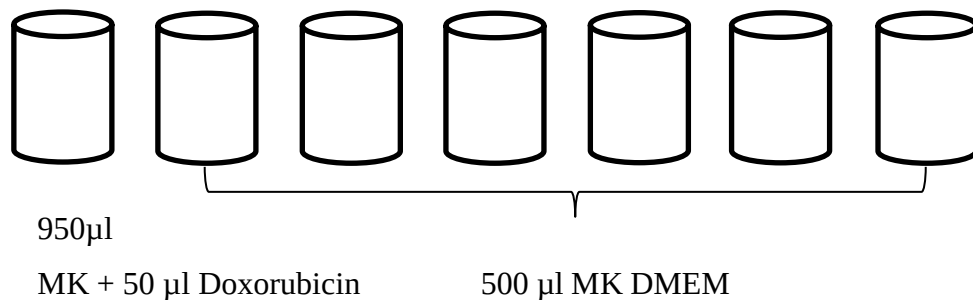
Konsentrasi Doxorubicin = 2000 $\mu\text{g}/\text{mL}$ (ppm)

$$V1 \cdot N1 = V2 \cdot N2$$

$$1 \text{ mL} \cdot 100 \text{ ppm} = V2 \cdot 2000 \text{ ppm}$$

$$V2 = 50 \mu\text{l} + 950 \text{ MK DMEM}$$

Dengan konsentrasi berturut- turut = 100 $\mu\text{g}/\text{ml}$; 50 $\mu\text{g}/\text{ml}$; 25 $\mu\text{g}/\text{ml}$; 12,5 $\mu\text{g}/\text{ml}$; 6,25 $\mu\text{g}/\text{ml}$; 3,125 $\mu\text{g}/\text{ml}$



➤ Pembuatan Larutan Stok Kombinasi Ekstrak Buah Tin dan Minyak Zaitun

Perbandingan 1:3 dengan IC_{50} Ekstrak Buah Tin yang sudah diketahui

sebesar 7635,251 $\mu\text{g/mL}$ dan Minyak Zaitun sebesar 1076,137 $\mu\text{g/mL}$

Konsentrasi sampel (ekstrak buah tin dan minyak zaitun) = 100.000

$\mu\text{g/mL}$

- Ekstrak Buah Tin 25%

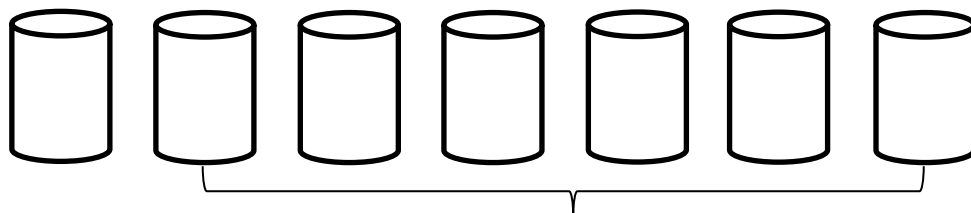
$$\begin{aligned}
 &= V1 \cdot N1 &= V2 \cdot N2 \\
 &= 1000 \mu\text{l} \cdot (25\% IC_{50} \text{ Tin} \times 2) &= V2 \cdot 100.000 \text{ ppm} \\
 &= 1000 \mu\text{l} \cdot (1908,8127 \times 2) &= V2 \cdot 100.000 \text{ ppm} \\
 &= 1000 \mu\text{l} \cdot 3817,6254 \text{ ppm} &= V2 \cdot 100.000 \text{ ppm} \\
 &V2 = \frac{1000 \mu\text{l} \cdot 3817,6254 \text{ ppm}}{100.000 \text{ ppm}} \\
 &V2 = 38,18 \mu\text{l}
 \end{aligned}$$

- Minyak Zaitun 75%

$$\begin{aligned}
 &= V1 \cdot N1 &= V2 \cdot N2 \\
 &= 1000 \mu\text{l} \cdot (75\% IC_{50} \text{ Zaitun} \times 2) &= V2 \cdot 100.000 \text{ ppm} \\
 &= 1000 \mu\text{l} \cdot (807,1027 \times 2) &= V2 \cdot 100.000 \text{ ppm} \\
 &= 1000 \mu\text{l} \cdot 1614,2054 \text{ ppm} &= V2 \cdot 100.000 \text{ ppm} \\
 &V2 = \frac{1000 \mu\text{l} \cdot 1614,2054 \text{ ppm}}{100.000 \text{ ppm}} \\
 &V2 = 16,14 \mu\text{l}
 \end{aligned}$$

Dengan konsentrasi berturut-turut = 1000 $\mu\text{g}/\mu\text{l}$; 500 $\mu\text{g}/\mu\text{l}$; 250 $\mu\text{g}/\mu\text{l}$;

125 $\mu\text{g}/\mu\text{l}$; 62,5 $\mu\text{g}/\mu\text{l}$; 31,25 $\mu\text{g}/\mu\text{l}$



945,68 μl MK

DMEM + (38,18 μl Ekstrak Buah Tin

500 μl MK DMEM

+ 16,14 μl Minyak Zaitun)

➤ Pembuatan Larutan Stok Kombinasi Ekstrak Buah Tin dan Minyak Zaitun

Perbandingan 1:1 dengan IC_{50} Ekstrak Buah Tin yang sudah diketahui sebesar 7635,251 $\mu\text{g/mL}$ dan Minyak Zaitun sebesar 1076,137 $\mu\text{g/mL}$

Konsentrasi sampel (ekstrak buah tin dan minyak zaitun) = 100.000 $\mu\text{g/mL}$

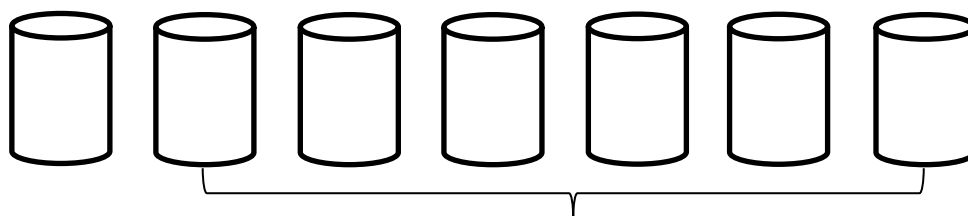
- Ekstrak Buah Tin 50%

$$\begin{aligned}
 &= V1 \cdot N1 &= V2 \cdot N2 \\
 &= 1000 \mu\text{l} \cdot (50\% IC_{50} \text{ Tin} \times 2) &= V2 \cdot 100.000 \text{ ppm} \\
 &= 1000 \mu\text{l} \cdot (3817,6255 \times 2) &= V2 \cdot 100.000 \text{ ppm} \\
 &= 1000 \mu\text{l} \cdot 7635,251 \text{ ppm} &= V2 \cdot 100.000 \text{ ppm} \\
 & &V2 = \frac{1000 \mu\text{l} \cdot 7635,251 \text{ ppm}}{100.000 \text{ ppm}} \\
 & &V2 = 76,35 \mu\text{l}
 \end{aligned}$$

- Minyak Zaitun 50%

$$\begin{aligned}
 &= V1 \cdot N1 &= V2 \cdot N2 \\
 &= 1000 \mu\text{l} \cdot (50\% IC_{50} \text{ Zaitun} \times 2) &= V2 \cdot 100.000 \text{ ppm} \\
 &= 1000 \mu\text{l} \cdot (538,0685 \times 2) &= V2 \cdot 100.000 \text{ ppm} \\
 &= 1000 \mu\text{l} \cdot 1076,137 \text{ ppm} &= V2 \cdot 100.000 \text{ ppm} \\
 & &V2 = \frac{1000 \mu\text{l} \cdot 1076,137 \text{ ppm}}{100.000 \text{ ppm}} \\
 & &V2 = 10,76 \mu\text{l}
 \end{aligned}$$

Dengan konsentrasi berturut-turut = 1000 $\mu\text{g}/\mu\text{l}$; 500 $\mu\text{g}/\mu\text{l}$; 250 $\mu\text{g}/\mu\text{l}$; 125 $\mu\text{g}/\mu\text{l}$; 62,5 $\mu\text{g}/\mu\text{l}$; 31,25 $\mu\text{g}/\mu\text{l}$



912,89 μl MK

DMEM + (76,35 μl Ekstrak Buah Tin

500 μl MK DMEM

+ 10,76 μl Minyak Zaitun)

➤ Pembuatan Larutan Stok Kombinasi Ekstrak Buah Tin dan Minyak Zaitun

Perbandingan 3:1 dengan IC_{50} Ekstrak Buah Tin yang sudah diketahui

sebesar 7635,251 $\mu\text{g/mL}$ dan Minyak Zaitun sebesar 1076,137 $\mu\text{g/mL}$

Konsentrasi sampel (ekstrak buah tin dan minyak zaitun) = 100.000 $\mu\text{g/mL}$

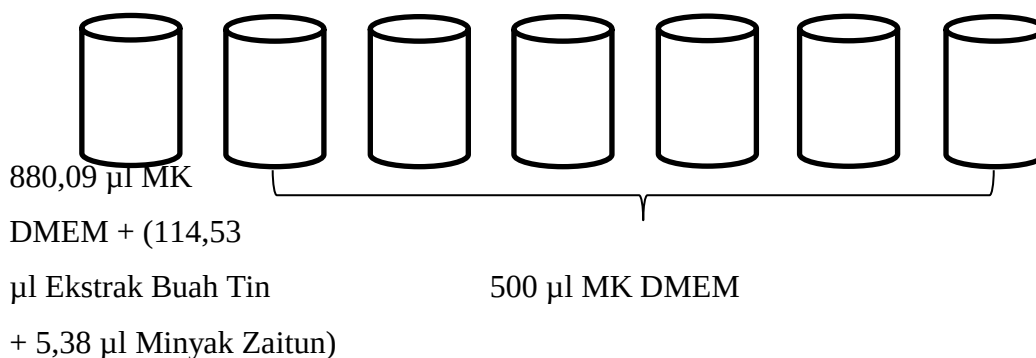
- Ekstrak Buah Tin 75%

$$\begin{aligned}
 &= V1 \cdot N1 &= V2 \cdot N2 \\
 &= 1000 \mu\text{l} \cdot (75\% IC_{50} \text{ Tin} \times 2) &= V2 \cdot 100.000 \text{ ppm} \\
 &= 1000 \mu\text{l} \cdot (5726,4382 \times 2) &= V2 \cdot 100.000 \text{ ppm} \\
 &= 1000 \mu\text{l} \cdot 11452,8764 \text{ ppm} &= V2 \cdot 100.000 \text{ ppm} \\
 & &V2 = \frac{1000 \mu\text{l} \cdot 11452,8764 \text{ ppm}}{100.000 \text{ ppm}} \\
 & &V2 = 114,53 \mu\text{l}
 \end{aligned}$$

- Minyak Zaitun 25%

$$\begin{aligned}
 &= V1 \cdot N1 &= V2 \cdot N2 \\
 &= 1000 \mu\text{l} \cdot (25\% IC_{50} \text{ Zaitun} \times 2) &= V2 \cdot 100.000 \text{ ppm} \\
 &= 1000 \mu\text{l} \cdot (269,0342 \times 2) &= V2 \cdot 100.000 \text{ ppm} \\
 &= 1000 \mu\text{l} \cdot 538,0684 \text{ ppm} &= V2 \cdot 100.000 \text{ ppm} \\
 & &V2 = \frac{1000 \mu\text{l} \cdot 538,0684 \text{ ppm}}{100.000 \text{ ppm}} \\
 & &V2 = 5,38 \mu\text{l}
 \end{aligned}$$

Dengan konsentrasi berturut-turut = 1000 $\mu\text{g}/\mu\text{l}$; 500 $\mu\text{g}/\mu\text{l}$; 250 $\mu\text{g}/\mu\text{l}$;
125 $\mu\text{g}/\mu\text{l}$; 62,5 $\mu\text{g}/\mu\text{l}$; 31,25 $\mu\text{g}/\mu\text{l}$



4. Hasil Absorbansi Ekstrak Buah Tin

Konsentrasi	Absorbansi (ppm)			Rata - Rata
	Replikasi 1	Replikasi 2	Replikasi 3	
A	0,363	0,367	0,344	0,358
B	0,376	0,367	0,367	0,370
C	0,377	0,359	0,385	0,373667
D	0,388	0,356	0,360	0,368
E	0,413	0,412	0,416	0,413667
F	0,424	0,426	0,413	0,421
G	0,434	0,399	0,409	0,414
H (Kontrol Sel)	0,41	0,409	0,417	0,412
Kontrol Media	0,094	0,095	0,094	0,094333

5. Hasil Absorbansi Minyak Zaitun

Konsentrasi	Absorbansi (ppm)			Rata – Rata
	Replikasi 1	Replikasi 2	Replikasi 3	
A	0,246	0,237	0,237	0,240
B	0,446	0,462	0,400	0,436
C	0,542	0,525	0,426	0,497667
D	0,499	0,523	0,452	0,491333
E	0,491	0,578	0,543	0,537333
F	0,484	0,472	0,416	0,457333
G	0,492	0,448	0,486	0,475333
H (Kontrol Sel)	0,4131	0,4132	0,4142	0,4135
Kontrol Media	0,0889	0,0895	0,0901	0,0895

6. Hasil Absorbansi Kontrol Positif Doxorubicin

Konsentrasi	Absorbansi (ppm)			Rata – Rata
	Replikasi 1	Replikasi 2	Replikasi 3	
A	0,201	0,207	0,231	0,213
B	0,259	0,266	0,263	0,262667
C	0,265	0,26	0,262	0,262333
D	0,269	0,281	0,280	0,276667
E	0,267	0,289	0,272	0,276
F	0,261	0,276	0,28	0,272333
G	0,273	0,27	0,273	0,272
H (Kontrol Sel)	0,410	0,409	0,417	0,412
Kontrol Media	0,094	0,095	0,094	0,094333

7. Hasil Absorbansi Kombinasi Ekstrak Buah Tin dan Minyak Zaitun 1:3

Konsentrasi	Absorbansi (ppm)			Rata – Rata
	Replikasi 1	Replikasi	Replikasi	
A	0,354	0,374	0,433	0,387
B	0,563	0,597	0,592	0,584
C	0,717	0,718	0,742	0,725667
D	0,655	0,763	0,705	0,707667
E	0,623	0,700	0,645	0,656
F	0,578	0,650	0,607	0,611667
G	0,536	0,546	0,546	0,542667
H (Kontrol	0,543	0,551	0,552	0,548667
Kontrol Media	0,093	0,097	0,097	0,095667

8. Hasil Absorbansi Kombinasi Ekstrak Buah Tin dan Minyak Zaitun 1:1

Konsentrasi	Absorbansi (ppm)			Rata – Rata
	Replikasi 1	Replikasi	Replikasi	
A	0,302	0,301	0,303	0,302
B	0,362	0,301	0,353	0,338667
C	0,377	0,372	0,371	0,373333
D	0,403	0,413	0,405	0,407
E	0,432	0,426	0,448	0,435333
F	0,455	0,465	0,444	0,454667
G	0,555	0,546	0,546	0,549
H (Kontrol	0,543	0,551	0,552	0,548667
Kontrol Media	0,093	0,097	0,097	0,095667

9. Hasil Absorbansi Kombinasi Ekstrak Buah Tin dan Minyak Zaitun 3:1

Konsentrasi	Absorbansi (ppm)			Rata – Rata
	Replikasi 1	Replikasi	Replikasi	
A	0,357	0,356	0,358	0,357
B	0,645	0,651	0,589	0,628333
C	0,614	0,612	0,602	0,609333
D	0,598	0,57	0,556	0,574667
E	0,566	0,554	0,546	0,555333
F	0,554	0,555	0,556	0,555
G	0,535	0,536	0,526	0,532333
H (Kontrol	0,543	0,551	0,552	0,548667
Kontrol Media	0,093	0,097	0,097	0,095667

10. Perhitungan Presentase Sel Hidup dan Analisis Harga IC₅₀

$$\% \text{ sel hidup} = \frac{(\text{Absorbansi perlakuan} - \text{Absorbansi kontrol media})}{(\text{Absorbansi kontrol sel} - \text{Absorbansi kontrol media})} \times 100\%$$

➤ Presentase Sel Hidup Ekstrak Buah Tin Terhadap Sel MCF-7

$$\begin{aligned} \% \text{ sel hidup (A)} &= \frac{(\text{Absorbansi ekstrak} - \text{Absorbansi kontrol media})}{(\text{Absorbansi kontrol sel} - \text{Absorbansi kontrol media})} \times 100\% \\ &= \frac{0,358 - 0,094333}{0,412 - 0,094333} \times 100\% \\ &= 83,00105 \end{aligned}$$

$$\begin{aligned} \% \text{ sel hidup (B)} &= \frac{(\text{Absorbansi ekstrak} - \text{Absorbansi kontrol media})}{(\text{Absorbansi kontrol sel} - \text{Absorbansi kontrol media})} \times 100\% \\ &= \frac{0,370 - 0,094333}{0,412 - 0,094333} \times 100\% \\ &= 86,77859 \end{aligned}$$

$$\begin{aligned} \% \text{ sel hidup (C)} &= \frac{(\text{Absorbansi ekstrak} - \text{Absorbansi kontrol media})}{(\text{Absorbansi kontrol sel} - \text{Absorbansi kontrol media})} \times 100\% \\ &= \frac{0,373667 - 0,094333}{0,412 - 0,094333} \times 100\% \\ &= 87,93284 \end{aligned}$$

$$\begin{aligned} \% \text{ sel hidup (D)} &= \frac{(\text{Absorbansi ekstrak} - \text{Absorbansi kontrol media})}{(\text{Absorbansi kontrol sel} - \text{Absorbansi kontrol media})} \times 100\% \\ &= \frac{0,368 - 0,094333}{0,412 - 0,094333} \times 100\% \\ &= 86,149 \end{aligned}$$

$$\begin{aligned} \% \text{ sel hidup (E)} &= \frac{(\text{Absorbansi ekstrak} - \text{Absorbansi kontrol media})}{(\text{Absorbansi kontrol sel} - \text{Absorbansi kontrol media})} \times 100\% \\ &= \frac{0,413667 - 0,094333}{0,412 - 0,094333} \times 100\% \\ &= 100,5247 \end{aligned}$$

$$\begin{aligned} \% \text{ sel hidup (F)} &= \frac{(\text{Absorbansi ekstrak} - \text{Absorbansi kontrol media})}{(\text{Absorbansi kontrol sel} - \text{Absorbansi kontrol media})} \times 100\% \\ &= \frac{0,421 - 0,094333}{0,412 - 0,094333} \times 100\% \\ &= 100,6296 \end{aligned}$$

$$\begin{aligned} \% \text{ sel hidup (G)} &= \frac{(\text{Absorbansi ekstrak} - \text{Absorbansi kontrol media})}{(\text{Absorbansi kontrol sel} - \text{Absorbansi kontrol media})} \times 100\% \\ &= \frac{0,414 - 0,094333}{0,412 - 0,094333} \times 100\% \\ &= 103,1805 \end{aligned}$$

➤ Presentase Sel Hidup Minyak Zaitun Terhadap Sel MCF-7

$$\begin{aligned}\% \text{ sel hidup (A)} &= \frac{(\text{Absorbansi ekstrak-Absorbansi kontrol media})}{(\text{Absorbansi kontrol sel-Absorbansi kontrol media})} \times 100\% \\ &= \frac{0,240 - 0,0895}{0,4135 - 0,0895} \times 100\% \\ &= 46,91358\end{aligned}$$

$$\begin{aligned}\% \text{ sel hidup (B)} &= \frac{(\text{Absorbansi ekstrak-Absorbansi kontrol media})}{(\text{Absorbansi kontrol sel-Absorbansi kontrol media})} \times 100\% \\ &= \frac{0,436 - 0,0895}{0,4135 - 0,0895} \times 100\% \\ &= 102,9321\end{aligned}$$

$$\begin{aligned}\% \text{ sel hidup (C)} &= \frac{(\text{Absorbansi ekstrak-Absorbansi kontrol media})}{(\text{Absorbansi kontrol sel-Absorbansi kontrol media})} \times 100\% \\ &= \frac{0,497667 - 0,0895}{0,4135 - 0,0895} \times 100\% \\ &= 119,1358\end{aligned}$$

$$\begin{aligned}\% \text{ sel hidup (D)} &= \frac{(\text{Absorbansi ekstrak-Absorbansi kontrol media})}{(\text{Absorbansi kontrol sel-Absorbansi kontrol media})} \times 100\% \\ &= \frac{0,491333 - 0,0895}{0,4135 - 0,0895} \times 100\% \\ &= 119,1358\end{aligned}$$

$$\begin{aligned}\% \text{ sel hidup (E)} &= \frac{(\text{Absorbansi ekstrak-Absorbansi kontrol media})}{(\text{Absorbansi kontrol sel-Absorbansi kontrol media})} \times 100\% \\ &= \frac{0,537333 - 0,0895}{0,4135 - 0,0895} \times 100\% \\ &= 131,9444\end{aligned}$$

$$\begin{aligned}\% \text{ sel hidup (F)} &= \frac{(\text{Absorbansi ekstrak-Absorbansi kontrol media})}{(\text{Absorbansi kontrol sel-Absorbansi kontrol media})} \times 100\% \\ &= \frac{0,457333 - 0,0895}{0,4135 - 0,0895} \times 100\% \\ &= 109,4136\end{aligned}$$

$$\begin{aligned}\% \text{ sel hidup (G)} &= \frac{(\text{Absorbansi ekstrak-Absorbansi kontrol media})}{(\text{Absorbansi kontrol sel-Absorbansi kontrol media})} \times 100\% \\ &= \frac{0,475333 - 0,0895}{0,4135 - 0,0895} \times 100\% \\ &= 116,5123\end{aligned}$$

➤ Presentase Sel Hidup Kontrol Positif Doxorubicin Terhadap Sel MCF-7

$$\begin{aligned}
 \% \text{ sel hidup (A)} &= \frac{(\text{Absorbansi ekstrak-Absorbansi kontrol media})}{(\text{Absorbansi kontrol sel-Absorbansi kontrol media})} \times 100\% \\
 &= \frac{0,213 - 0,094333}{0,412 - 0,094333} \times 100\% \\
 &= 37,35572
 \end{aligned}$$

$$\begin{aligned}
 \% \text{ sel hidup (B)} &= \frac{(\text{Absorbansi ekstrak-Absorbansi kontrol media})}{(\text{Absorbansi kontrol sel-Absorbansi kontrol media})} \times 100\% \\
 &= \frac{0,262667 - 0,094333}{0,412 - 0,094333} \times 100\% \\
 &= 52,99056
 \end{aligned}$$

$$\begin{aligned}
 \% \text{ sel hidup (C)} &= \frac{(\text{Absorbansi ekstrak-Absorbansi kontrol media})}{(\text{Absorbansi kontrol sel-Absorbansi kontrol media})} \times 100\% \\
 &= \frac{0,262333 - 0,094333}{0,412 - 0,094333} \times 100\% \\
 &= 52,88562
 \end{aligned}$$

$$\begin{aligned}
 \% \text{ sel hidup (D)} &= \frac{(\text{Absorbansi ekstrak-Absorbansi kontrol media})}{(\text{Absorbansi kontrol sel-Absorbansi kontrol media})} \times 100\% \\
 &= \frac{0,276667 - 0,094333}{0,412 - 0,094333} \times 100\% \\
 &= 57,39769
 \end{aligned}$$

$$\begin{aligned}
 \% \text{ sel hidup (E)} &= \frac{(\text{Absorbansi ekstrak-Absorbansi kontrol media})}{(\text{Absorbansi kontrol sel-Absorbansi kontrol media})} \times 100\% \\
 &= \frac{0,276 - 0,094333}{0,412 - 0,094333} \times 100\% \\
 &= 57,18783
 \end{aligned}$$

$$\begin{aligned}
 \% \text{ sel hidup (F)} &= \frac{(\text{Absorbansi ekstrak-Absorbansi kontrol media})}{(\text{Absorbansi kontrol sel-Absorbansi kontrol media})} \times 100\% \\
 &= \frac{0,272333 - 0,094333}{0,412 - 0,094333} \times 100\% \\
 &= 56,03358
 \end{aligned}$$

$$\begin{aligned}
 \% \text{ sel hidup (G)} &= \frac{(\text{Absorbansi ekstrak-Absorbansi kontrol media})}{(\text{Absorbansi kontrol sel-Absorbansi kontrol media})} \times 100\% \\
 &= \frac{0,272 - 0,094333}{0,412 - 0,094333} \times 100\% \\
 &= 55,92865
 \end{aligned}$$

➤ Presentase Sel Hidup Kombinasi Ekstrak Buah Tin dan Minyak Zaitun Perbandingan 1:3 Terhadap Sel MCF-7

$$\% \text{ sel hidup (A)} = \frac{(\text{Absorbansi ekstrak-Absorbansi kontrol media})}{(\text{Absorbansi kontrol sel-Absorbansi kontrol media})} \times 100\%$$

$$= \frac{0,387 - 0,095667}{0,548667 - 0,095667} \times 100\%$$

$$= 64,31199$$

$$\% \text{ sel hidup (B)} = \frac{(\text{Absorbansi ekstrak-Absorbansi kontrol media})}{(\text{Absorbansi kontrol sel-Absorbansi kontrol media})} \times 100\%$$

$$= \frac{0,584 - 0,095667}{0,548667 - 0,095667} \times 100\%$$

$$= 107,7999$$

$$\% \text{ sel hidup (C)} = \frac{(\text{Absorbansi ekstrak-Absorbansi kontrol media})}{(\text{Absorbansi kontrol sel-Absorbansi kontrol media})} \times 100\%$$

$$= \frac{0,725667 - 0,095667}{0,548667 - 0,095667} \times 100\%$$

$$= 139,0728$$

$$\% \text{ sel hidup (D)} = \frac{(\text{Absorbansi ekstrak-Absorbansi kontrol media})}{(\text{Absorbansi kontrol sel-Absorbansi kontrol media})} \times 100\%$$

$$= \frac{0,707667 - 0,095667}{0,548667 - 0,095667} \times 100\%$$

$$= 135,0993$$

$$\% \text{ sel hidup (E)} = \frac{(\text{Absorbansi ekstrak-Absorbansi kontrol media})}{(\text{Absorbansi kontrol sel-Absorbansi kontrol media})} \times 100\%$$

$$= \frac{0,656 - 0,095667}{0,548667 - 0,095667} \times 100\%$$

$$= 123,6939$$

$$\% \text{ sel hidup (F)} = \frac{(\text{Absorbansi ekstrak-Absorbansi kontrol media})}{(\text{Absorbansi kontrol sel-Absorbansi kontrol media})} \times 100\%$$

$$= \frac{0,611667 - 0,095667}{0,548667 - 0,095667} \times 100\%$$

$$= 113,9073$$

$$\% \text{ sel hidup (G)} = \frac{(\text{Absorbansi ekstrak-Absorbansi kontrol media})}{(\text{Absorbansi kontrol sel-Absorbansi kontrol media})} \times 100\%$$

$$= \frac{0,542667 - 0,095667}{0,548667 - 0,095667} \times 100\%$$

$$= 98,6755$$

➤ Presentase Sel Hidup Kombinasi Ekstrak Buah Tin dan Minyak Zaitun Perbandingan 1:1 Terhadap Sel MCF-7

$$\% \text{ sel hidup (A)} = \frac{(\text{Absorbansi ekstrak-Absorbansi kontrol media})}{(\text{Absorbansi kontrol sel-Absorbansi kontrol media})} \times 100\%$$

$$= \frac{0,302 - 0,095667}{0,548667 - 0,095667} \times 100\%$$

$$= 45,5482$$

$$\begin{aligned}\% \text{ sel hidup (B)} &= \frac{(\text{Absorbansi ekstrak-Absorbansi kontrol media})}{(\text{Absorbansi kontrol sel-Absorbansi kontrol media})} \times 100\% \\ &= \frac{0,338667 - 0,095667}{0,548667 - 0,095667} \times 100\% \\ &= 53,64238\end{aligned}$$

$$\begin{aligned}\% \text{ sel hidup (C)} &= \frac{(\text{Absorbansi ekstrak-Absorbansi kontrol media})}{(\text{Absorbansi kontrol sel-Absorbansi kontrol media})} \times 100\% \\ &= \frac{0,373333 - 0,095667}{0,548667 - 0,095667} \times 100\% \\ &= 61,29507\end{aligned}$$

$$\begin{aligned}\% \text{ sel hidup (D)} &= \frac{(\text{Absorbansi ekstrak-Absorbansi kontrol media})}{(\text{Absorbansi kontrol sel-Absorbansi kontrol media})} \times 100\% \\ &= \frac{0,407 - 0,095667}{0,548667 - 0,095667} \times 100\% \\ &= 68,72701\end{aligned}$$

$$\begin{aligned}\% \text{ sel hidup (E)} &= \frac{(\text{Absorbansi ekstrak-Absorbansi kontrol media})}{(\text{Absorbansi kontrol sel-Absorbansi kontrol media})} \times 100\% \\ &= \frac{0,435333 - 0,095667}{0,548667 - 0,095667} \times 100\% \\ &= 74,9816\end{aligned}$$

$$\begin{aligned}\% \text{ sel hidup (F)} &= \frac{(\text{Absorbansi ekstrak-Absorbansi kontrol media})}{(\text{Absorbansi kontrol sel-Absorbansi kontrol media})} \times 100\% \\ &= \frac{0,454667 - 0,095667}{0,548667 - 0,095667} \times 100\% \\ &= 79,24945\end{aligned}$$

$$\begin{aligned}\% \text{ sel hidup (G)} &= \frac{(\text{Absorbansi ekstrak-Absorbansi kontrol media})}{(\text{Absorbansi kontrol sel-Absorbansi kontrol media})} \times 100\% \\ &= \frac{0,549 - 0,095667}{0,548667 - 0,095667} \times 100\% \\ &= 100,0736\end{aligned}$$

➤ Presentase Sel Hidup Kombinasi Ekstrak Buah Tin dan Minyak Zaitun Perbandingan 3:1 Terhadap Sel MCF-7

$$\begin{aligned}\% \text{ sel hidup (A)} &= \frac{(\text{Absorbansi ekstrak-Absorbansi kontrol media})}{(\text{Absorbansi kontrol sel-Absorbansi kontrol media})} \times 100\% \\ &= \frac{0,357 - 0,095667}{0,548667 - 0,095667} \times 100\% \\ &= 57,68948\end{aligned}$$

$$\begin{aligned}
 \% \text{ sel hidup (B)} &= \frac{(\text{Absorbansi ekstrak-Absorbansi kontrol media})}{(\text{Absorbansi kontrol sel-Absorbansi kontrol media})} \times 100\% \\
 &= \frac{0,628333 - 0,095667}{0,548667 - 0,095667} \times 100\% \\
 &= 117,5865
 \end{aligned}$$

$$\begin{aligned}
 \% \text{ sel hidup (C)} &= \frac{(\text{Absorbansi ekstrak-Absorbansi kontrol media})}{(\text{Absorbansi kontrol sel-Absorbansi kontrol media})} \times 100\% \\
 &= \frac{0,609333 - 0,095667}{0,548667 - 0,095667} \times 100\% \\
 &= 113,3922
 \end{aligned}$$

$$\begin{aligned}
 \% \text{ sel hidup (D)} &= \frac{(\text{Absorbansi ekstrak-Absorbansi kontrol media})}{(\text{Absorbansi kontrol sel-Absorbansi kontrol media})} \times 100\% \\
 &= \frac{0,574667 - 0,095667}{0,548667 - 0,095667} \times 100\% \\
 &= 105,7395
 \end{aligned}$$

$$\begin{aligned}
 \% \text{ sel hidup (E)} &= \frac{(\text{Absorbansi ekstrak-Absorbansi kontrol media})}{(\text{Absorbansi kontrol sel-Absorbansi kontrol media})} \times 100\% \\
 &= \frac{0,555333 - 0,095667}{0,548667 - 0,095667} \times 100\% \\
 &= 101,4717
 \end{aligned}$$

$$\begin{aligned}
 \% \text{ sel hidup (F)} &= \frac{(\text{Absorbansi ekstrak-Absorbansi kontrol media})}{(\text{Absorbansi kontrol sel-Absorbansi kontrol media})} \times 100\% \\
 &= \frac{0,555 - 0,095667}{0,548667 - 0,095667} \times 100\% \\
 &= 101,3981
 \end{aligned}$$

$$\begin{aligned}
 \% \text{ sel hidup (G)} &= \frac{(\text{Absorbansi ekstrak-Absorbansi kontrol media})}{(\text{Absorbansi kontrol sel-Absorbansi kontrol media})} \times 100\% \\
 &= \frac{0,532333 - 0,095667}{0,548667 - 0,095667} \times 100\% \\
 &= 96,39441
 \end{aligned}$$

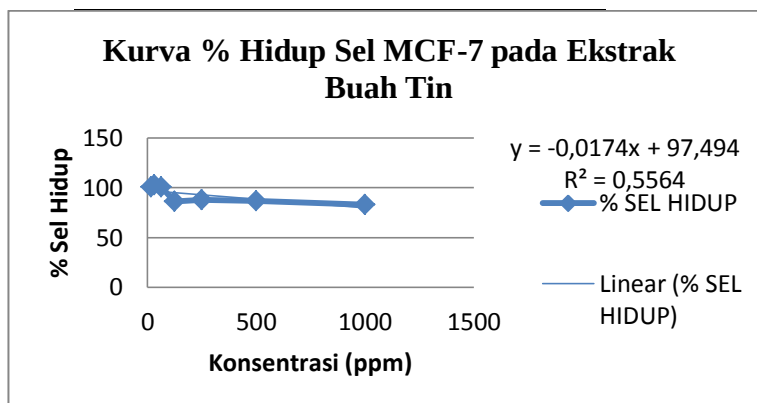
11. Kurva % Sel Hidup Sel MCF-7 pada Ekstrak Buah Tin, Minyak

Zaitun, Doxorubicin, Serta Kombinasi Perbandingan 1:3 ; 1:1; 3:1

➤ Kurva % Hidup Sel MCF-7 pada Ekstrak Buah Tin

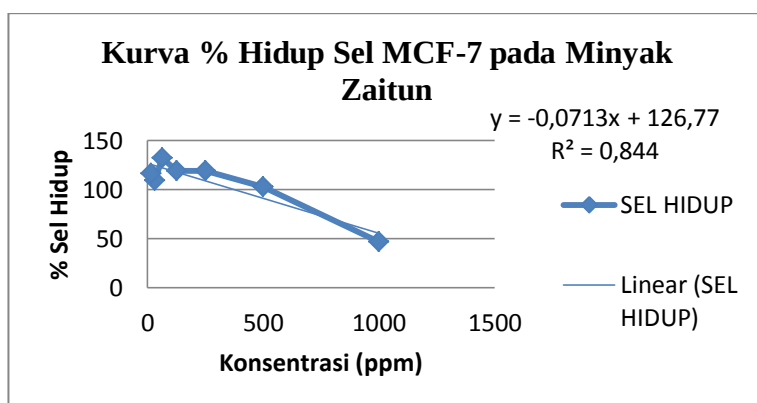
Konsentrasi (ppm)	% Sel Hidup
1000	83,00105
500	86,77859

250	87,93284
125	86,149
62,5	100,5247
31,25	102,8332
15,625	100,6296



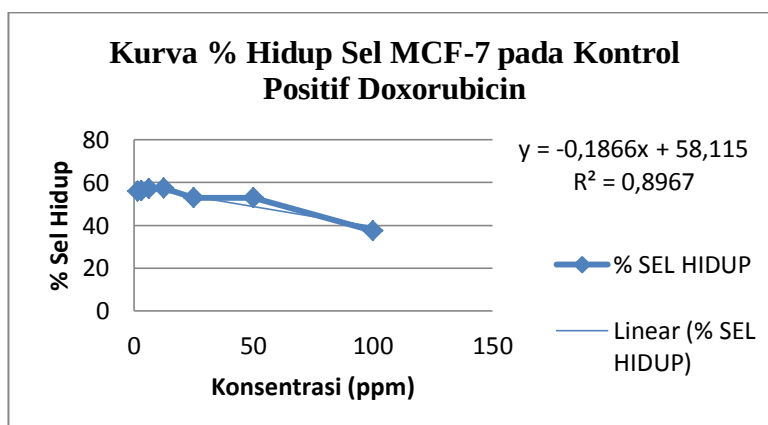
➤ Kurva % Hidup Sel MCF-7 pada Minyak Zaitun

Konsentrasi (ppm)	% Sel Hidup
1000	46,91358
500	102,9321
250	119,1358
125	119,1358
62,5	131,9444
31,25	109,4136
15,625	116,5123



➤ Kurva % Hidup Sel MCF-7 pada Kontrol Positif Doxorubicin

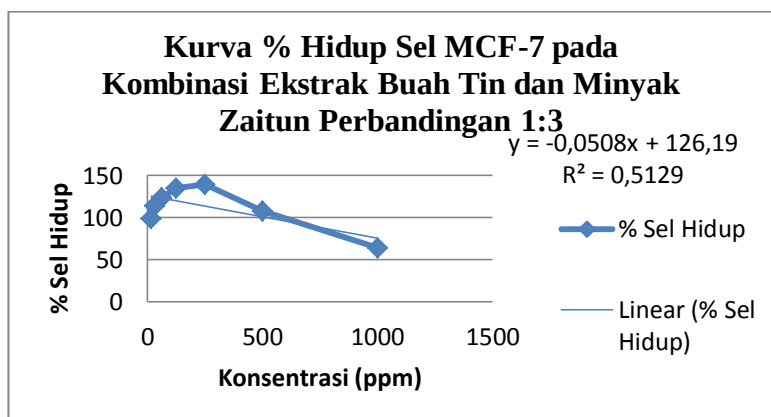
Konsentrasi (ppm)	% Sel Hidup
100	37,35572
50	52,99056
25	52,88562
12,5	57,39769
6,25	57,18783
3,125	56,03358
1,562	55,92865



➤ Kurva % Hidup Sel MCF-7 pada Kombinasi Ekstrak Buah Tin dan Minyak Zaitun Perbandingan 1:3

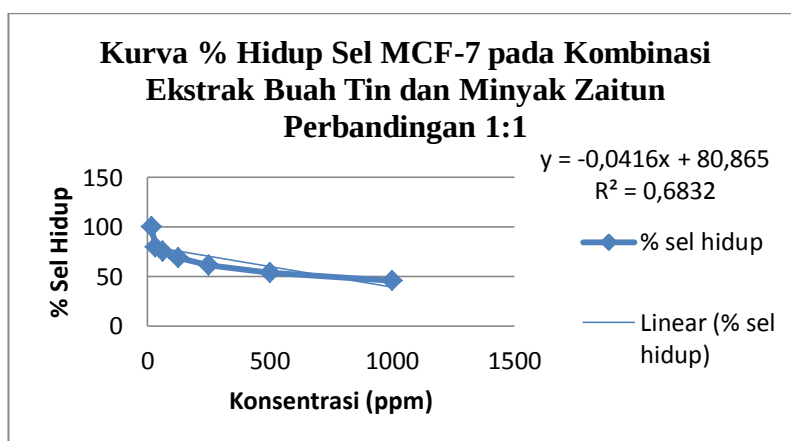
Konsentrasi (ppm)	% Sel Hidup
1000	64,31199
500	107,7999
250	139,0728
125	135,0993

62,5	123,6939
31,25	113,9073
15,625	98,6755



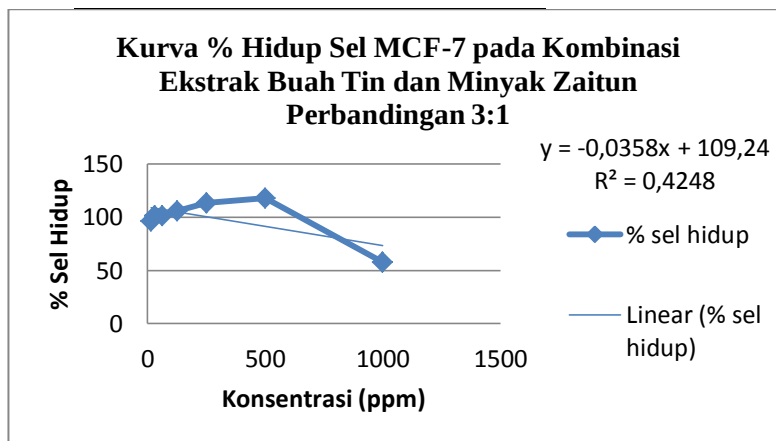
- Kurva % Hidup Sel MCF-7 pada Kombinasi Ekstrak Buah Tin dan Minyak Zaitun Perbandingan 1:1

Konsentrasi (ppm)	% Sel Hidup
1000	45,5482
500	53,64238
250	61,29507
125	68,72701
62,5	74,9816
31,25	79,24945
15,625	100,0736



- Kurva % Hidup Sel MCF-7 pada Kombinasi Ekstrak Buah Tin dan Minyak Zaitun Perbandingan 3:1

Konsentrasi (ppm)	% Sel Hidup
1000	57,68948
500	117,5865
250	113,3922
125	105,7395
62,5	101,4717
31,25	101,3981
15,625	96,39441



Lampiran 8. Hasil Pembacaan SPSS Probit Ekstrak Buah Tin

Confidence Limits

Proba bility	95% Confidence Limits for KONSENTRASI			95% Confidence Limits for $\log(\text{KONSENTRASI})^b$		
	Estimate	Lower Bound	Upper Bound	Estimate	Lower Bound	Upper Bound
PROBIT ^a 0.01	3.033E6	35464.339	5.469E41	6.482	4.550	41.738
0.02	1.504E6	24383.463	5.918E38	6.177	4.387	38.772
0.03	963961.806	19216.515	7.775E36	5.984	4.284	36.891

0.04	689767.498	16060.406	2.989E35	5.839	4.206	35.475
0.05	525370.809	13876.838	2.110E34	5.720	4.142	34.324
0.06	416704.184	12251.903	2.211E33	5.620	4.088	33.345
0.07	340085.375	10983.069	3.060E32	5.532	4.041	32.486
0.08	283517.352	9957.786	5.208E31	5.453	3.998	31.717
0.09	240283.941	9107.776	1.041E31	5.381	3.959	31.017
0.1	206339.415	8388.872	2.364E30	5.315	3.924	30.374
0.15	109833.383	5962.112	5.115E27	5.041	3.775	27.709
0.2	66540.917	4538.182	3.906E25	4.823	3.657	25.592
0.25	43288.073	3585.934	5.969E23	4.636	3.555	23.776
0.3	29423.034	2898.316	1.399E22	4.469	3.462	22.146
0.35	20573.406	2375.856	4.326E20	4.313	3.376	20.636
0.4	14650.909	1964.127	1.600E19	4.166	3.293	19.204
0.45	10549.044	1630.542	6.602E17	4.023	3.212	17.820
0.5	7635.251	1354.226	2.872E16	3.883	3.132	16.458
0.55	5526.288	1121.060	1.254E15	3.742	3.050	15.098
0.6	3979.075	921.016	5.226E13	3.600	2.964	13.718
0.65	2833.612	746.577	1.971E12	3.452	2.873	12.295
0.7	1981.341	591.666	6.305E10	3.297	2.772	10.800
0.75	1346.723	450.619	1.568E9	3.129	2.654	9.195
0.8	876.108	316.511	2.697E7	2.943	2.500	7.431
0.85	530.777	176.827	280534.270	2.725	2.248	5.448

0.9	282.530	27.775	2746.879	2.451	1.444	3.439
0.91	242.617	11.356	1405.582	2.385	1.055	3.148
0.92	205.621	3.495	834.539	2.313	.544	2.921
0.93	171.419	.806	558.540	2.234	-.094	2.747
0.94	139.900	.138	404.632	2.146	-.860	2.607
0.95	110.964	.017	306.427	2.045	-1.773	2.486
0.96	84.517	.001	236.039	1.927	-2.874	2.373

0.97	60.477	.000	180.322	1.782	-4.251	2.256
0.98	38.758	.000	131.946	1.588	-6.100	2.120
0.99	19.223	.000	84.822	1.284	-9.036	1.929

Lampiran 9. Hasil Pembacaan SPSS Probit Minyak Zaitun

Confidence Limits						
Proba bility	95% Confidence Limits for KONSENTRASI			95% Confidence Limits for log(KONSENTRASI) ^b		
	Estimate	Lower Bound	Upper Bound	Estimate	Lower Bound	Upper Bound
PROBIT ^a 0.01	4220.232	2113.698	79917.110	3.625	3.325	4.903
0.02	3595.790	1910.055	52015.500	3.556	3.281	4.716
0.03	3248.420	1790.539	39622.993	3.512	3.253	4.598
0.04	3009.406	1705.222	32294.902	3.478	3.232	4.509
0.05	2828.018	1638.569	27350.190	3.451	3.214	4.437
0.06	2682.267	1583.690	23745.710	3.429	3.200	4.376
0.07	2560.666	1536.917	20980.640	3.408	3.187	4.322
0.08	2456.473	1496.067	18781.024	3.390	3.175	4.274
0.09	2365.398	1459.731	16982.935	3.374	3.164	4.230
0.1	2284.552	1426.948	15481.602	3.359	3.154	4.190
0.15	1978.197	1297.583	10563.849	3.296	3.113	4.024
0.2	1764.297	1201.382	7808.124	3.247	3.080	3.893
0.25	1599.319	1122.869	6033.589	3.204	3.050	3.781
0.3	1464.354	1055.017	4794.386	3.166	3.023	3.681
0.35	1349.478	993.918	3881.851	3.130	2.997	3.589
0.4	1248.816	937.035	3184.486	3.096	2.972	3.503
0.45	1158.577	882.466	2637.114	3.064	2.946	3.421
0.5	1076.137	828.541	2199.156	3.032	2.918	3.342
0.55	999.564	773.560	1844.249	3.000	2.888	3.266
0.6	927.336	715.573	1554.860	2.967	2.855	3.192
0.65	858.163	652.279	1319.221	2.934	2.814	3.120

0.7	790.841	581.296	1129.147	2.898	2.764	3.053
0.75	724.103	501.210	977.722	2.860	2.700	2.990
0.8	656.393	413.047	856.866	2.817	2.616	2.933
0.85	585.418	320.222	756.365	2.767	2.505	2.879

0.9	506.914	226.226	664.315	2.705	2.355	2.822
0.91	489.588	207.424	645.648	2.690	2.317	2.810
0.92	471.437	188.598	626.518	2.673	2.276	2.797
0.93	452.254	169.711	606.683	2.655	2.230	2.783
0.94	431.751	150.703	585.817	2.635	2.178	2.768
0.95	409.499	131.480	563.452	2.612	2.119	2.751
0.96	384.817	111.881	538.852	2.585	2.049	2.731
0.97	356.503	91.626	510.730	2.552	1.962	2.708
0.98	322.063	70.145	476.394	2.508	1.846	2.678
0.99	274.409	45.915	428.059	2.438	1.662	2.632

Lampiran 10. Hasil Pembacaan SPSS Probit Kontrol Positif Doxorubicin

Confidence Limits

Proba bility	95% Confidence Limits for konsentrasi			95% Confidence Limits for log(konsentrasi) ^a		
	Estimate	Lower Bound	Upper Bound	Estimate	Lower Bound	Upper Bound
PROBIT 0.01	7.714E7	653798.495	1.421E13	7.887	5.815	13.153
0.02	1.350E7	193727.443	6.468E11	7.130	5.287	11.811
0.03	4.470E6	89501.409	9.111E10	6.650	4.952	10.960
0.04	1.946E6	50051.353	2.086E10	6.289	4.699	10.319
0.05	9.890E5	31188.283	6.291E9	5.995	4.494	9.799
0.06	5.560E5	20847.528	2.268E9	5.745	4.319	9.356
0.07	3.356E5	14641.674	9.273E8	5.526	4.166	8.967
0.08	2.135E5	10668.672	4.164E8	5.329	4.028	8.620
0.09	1.416E5	7998.527	2.011E8	5.151	3.903	8.303

0.1	96949.784	6134.660	1.029E8	4.987	3.788	8.012
0.15	20230.506	2041.205	6436724.609	4.306	3.310	6.809
0.2	5822.842	848.340	713586.969	3.765	2.929	5.853
0.25	2000.393	397.745	108588.573	3.301	2.600	5.036
0.3	766.322	200.293	20137.937	2.884	2.302	4.304
0.35	314.973	105.126	4263.782	2.498	2.022	3.630
0.4	135.477	56.144	992.611	2.132	1.749	2.997
0.45	59.891	29.652	250.045	1.777	1.472	2.398
0.5	26.821	14.675	69.402	1.428	1.167	1.841
0.55	12.011	6.065	23.069	1.080	.783	1.363
0.6	5.310	1.902	9.788	.725	.279	.991
0.65	2.284	.484	4.781	.359	-.315	.679
0.7	.939	.107	2.414	-.027	-.972	.383
0.75	.360	.020	1.192	-.444	-1.696	.076
0.8	.124	.003	.553	-.908	-2.509	-.258
0.85	.036	.000	.228	-1.449	-3.461	-.642

0.9	.007	.000	.076	-2.130	-4.663	-1.122
0.91	.005	.000	.058	-2.294	-4.953	-1.237
0.92	.003	.000	.043	-2.473	-5.269	-1.363
0.93	.002	.000	.032	-2.669	-5.616	-1.501
0.94	.001	.000	.022	-2.888	-6.004	-1.654
0.95	.001	.000	.015	-3.138	-6.447	-1.830
0.96	.000	.000	.009	-3.432	-6.968	-2.035
0.97	.000	.000	.005	-3.793	-7.608	-2.288
0.98	.000	.000	.002	-4.273	-8.459	-2.624
0.99	.000	.000	.001	-5.030	-9.800	-3.152

Lampiran 11. Hasil Pembacaan SPSS Probit Kombinasi Ekstrak Buah Tin dan Minyak Zaitun Perbandingan 1:3

Confidence Limits

Proba bility	95% Confidence Limits for konsentrasi			95% Confidence Limits for log(konsentrasi) ^b		
	Estimate	Lower Bound	Upper Bound	Estimate	Lower Bound	Upper Bound
PROBIT ^a 0.01	30704.112	.	.	4.487	.	.
0.02	22576.451	.	.	4.354	.	.
0.03	18574.977	.	.	4.269	.	.
0.04	16039.512	.	.	4.205	.	.
0.05	14234.622	.	.	4.153	.	.
0.06	12859.305	.	.	4.109	.	.
0.07	11763.200	.	.	4.071	.	.
0.08	10861.290	.	.	4.036	.	.
0.09	10101.224	.	.	4.004	.	.
0.1	9448.686	.	.	3.975	.	.
0.15	7166.265	.	.	3.855	.	.
0.2	5752.521	.	.	3.760	.	.
0.25	4764.132	.	.	3.678	.	.
0.3	4022.148	.	.	3.604	.	.
0.35	3438.155	.	.	3.536	.	.
0.4	2962.609	.	.	3.472	.	.
0.45	2565.214	.	.	3.409	.	.
0.5	2226.202	.	.	3.348	.	.
0.55	1931.993	.	.	3.286	.	.
0.6	1672.841	.	.	3.223	.	.
0.65	1441.463	.	.	3.159	.	.
0.7	1232.171	.	.	3.091	.	.
0.75	1040.268	.	.	3.017	.	.
0.8	861.531	.	.	2.935	.	.

0.85	691.570	.	.	2.840	.	.
0.9	524.515	.	.	2.720	.	.
0.91	490.631	.	.	2.691	.	.
0.92	456.297	.	.	2.659	.	.
0.93	421.312	.	.	2.625	.	.
0.94	385.400	.	.	2.586	.	.
0.95	348.163	.	.	2.542	.	.
0.96	308.985	.	.	2.490	.	.
0.97	266.809	.	.	2.426	.	.
0.98	219.520	.	.	2.341	.	.
0.99	161.411	.	.	2.208	.	.

Lampiran 12. Hasil Pembacaan SPSS Probit Kombinasi Ekstrak Buah Tin dan Minyak Zaitun Perbandingan 1:1

Confidence Limits						
Proba bility	95% Confidence Limits for konsentrasi			95% Confidence Limits for log(konsentrasi) ^b		
	Estimate	Lower Bound	Upper Bound	Estimate	Lower Bound	Upper Bound
PROBIT ^a 0.01	3.070E5	23845.421	5.710E8	5.487	4.377	8.757
0.02	1.471E5	14509.669	1.324E8	5.168	4.162	8.122
0.03	92240.496	10579.536	5.243E7	4.965	4.024	7.720
0.04	64929.948	8338.100	2.612E7	4.812	3.921	7.417
0.05	48799.697	6867.712	1.483E7	4.688	3.837	7.171
0.06	38269.244	5820.728	9160828.741	4.583	3.765	6.962
0.07	30923.458	5033.715	6006415.491	4.490	3.702	6.779
0.08	25551.122	4418.837	4116868.196	4.407	3.645	6.615
0.09	21480.070	3924.334	2920490.135	4.332	3.594	6.465
0.1	18308.532	3517.571	2129497.180	4.263	3.546	6.328
0.15	9449.152	2231.002	577172.772	3.975	3.348	5.761
0.2	5585.823	1548.131	205223.674	3.747	3.190	5.312

0.25	3558.125	1127.353	84832.449	3.551	3.052	4.929
0.3	2373.163	844.349	38534.938	3.375	2.927	4.586
0.35	1630.557	642.600	18643.919	3.212	2.808	4.271
0.4	1142.017	492.588	9424.690	3.058	2.692	3.974
0.45	809.160	377.330	4916.752	2.908	2.577	3.692
0.5	576.459	286.323	2627.284	2.761	2.457	3.420
0.55	410.679	212.728	1433.851	2.614	2.328	3.157
0.6	290.981	152.065	801.582	2.464	2.182	2.904
0.65	203.798	101.884	463.601	2.309	2.008	2.666
0.7	140.026	61.913	280.913	2.146	1.792	2.449
0.75	93.393	33.147	178.508	1.970	1.520	2.252
0.8	59.491	15.287	116.513	1.774	1.184	2.066

0.85	35.168	5.840	75.253	1.546	.766	1.877
0.9	18.150	1.662	45.460	1.259	.221	1.658
0.91	15.470	1.221	40.426	1.190	.087	1.607
0.92	13.005	.873	35.634	1.114	-.059	1.552
0.93	10.746	.603	31.060	1.031	-.220	1.492
0.94	8.683	.398	26.678	.939	-.400	1.426
0.95	6.810	.247	22.463	.833	-.607	1.351
0.96	5.118	.141	18.383	.709	-.850	1.264
0.97	3.603	.071	14.395	.557	-1.150	1.158
0.98	2.259	.028	10.426	.354	-1.549	1.018
0.99	1.083	.007	6.296	.034	-2.180	.799

Lampiran 13. Hasil Pembacaan SPSS Probit Kombinasi Ekstrak Buah Tin dan Minyak Zaitun Perbandingan 3:1

Confidence Limits

Proba bility	95% Confidence Limits for konsentrasi	95% Confidence Limits for log(konsentrasi) ^b
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		Estimate	Lower Bound	Upper Bound	Estimate	Lower Bound	Upper Bound
PROBIT ^a	0.01	1.317E5	.	.	5.120	.	.
	0.02	85018.526	.	.	4.930	.	.
	0.03	64391.632	.	.	4.809	.	.
	0.04	52244.846	.	.	4.718	.	.
	0.05	44075.380	.	.	4.644	.	.
	0.06	38136.456	.	.	4.581	.	.
	0.07	33591.404	.	.	4.526	.	.
	0.08	29983.462	.	.	4.477	.	.
	0.09	27039.784	.	.	4.432	.	.
	0.1	24586.258	.	.	4.391	.	.
	0.15	16582.681	.	.	4.220	.	.
	0.2	12126.051	.	.	4.084	.	.
	0.25	9270.411	.	.	3.967	.	.
	0.3	7284.005	.	.	3.862	.	.
	0.35	5825.369	.	.	3.765	.	.
	0.4	4712.328	.	.	3.673	.	.
	0.45	3838.305	.	.	3.584	.	.
	0.5	3136.577	.	.	3.496	.	.
	0.55	2563.140	.	.	3.409	.	.
	0.6	2087.739	.	.	3.320	.	.
	0.65	1688.839	.	.	3.228	.	.
	0.7	1350.646	.	.	3.131	.	.
	0.75	1061.238	.	.	3.026	.	.
	0.8	811.320	.	.	2.909	.	.
	0.85	593.276	.	.	2.773	.	.
	0.9	400.147	.	.	2.602	.	.
	0.91	363.838	.	.	2.561	.	.
	0.92	328.118	.	.	2.516	.	.

0.93	292.876	.	.	2.467	.	.
0.94	257.971	.	.	2.412	.	.
0.95	223.211	.	.	2.349	.	.
0.96	188.308	.	.	2.275	.	.
0.97	152.786	.	.	2.184	.	.
0.98	115.717	.	.	2.063	.	.
0.99	74.677	.	.	1.873	.	.

Lampiran 14. Perhitungan Pada Uji Aktivitas Antioksidan dari Ekstrak Buah Tin, Minyak Zaitun dan Kominasi 1:1

1. Perhitungan Uji Antioksidan

➤ Pembuatan Larutan DPPH

Membuat larutan DPPH (1,1 difenil-2-pikrilhidrazil) 1000 ppm dengan cara menimbang serbuk DPPH 10 mg kemudian dimasukkan dalam labu ukur 10 mL dan diencerkan dengan etanol pa sampai tanda batas labu ukur. Kemudian ambil 1 ml dari larutan induk lalu dilarutkan dengan etanol pa sampai batas labu ukur 10 mL. Labu ukur dilapisi dengan aluminium foil dan di simpan dalam lemari tertutup agar terhindar dari cahaya.

➤ Perhitungan Uji Antioksidan Ekstrak Buah Tin

Diketahui IC50 Ekstrak Buah Tin sebesar 7635,251 µg/mL

Perhitungan

$$\begin{aligned}
 V1 \cdot N1 &= V2 \cdot N2 \\
 10.000 \mu\text{l} \cdot (7635,251 \text{ ppm} \times 2) &= V2 \cdot 100.000 \text{ ppm} \\
 V2 &= 1527,05 \mu\text{l} \\
 V1 \cdot N1 &= V2 \cdot N2 \\
 1527,05 \mu\text{l} \cdot 100.000 \text{ ppm} &= 10.000 \mu\text{l} \cdot N2
 \end{aligned}$$

$$\begin{array}{rcl}
 & N2 & = 15270,5 \text{ ppm} \\
 \text{Konsentrasi 5 ppm} & & \\
 V1 \cdot N1 & = & V2 \cdot N2 \\
 10.000 \mu\text{l} \cdot 5 \text{ ppm} & = & V2 \cdot 15270,5 \text{ ppm} \\
 & V2 & = 3,27 \mu\text{l} \rightarrow 3,3 \mu\text{l} \\
 \text{Konsentrasi 10 ppm} & & \\
 V1 \cdot N1 & = & V2 \cdot N2 \\
 10.000 \mu\text{l} \cdot 10 \text{ ppm} & = & V2 \cdot 15270,5 \text{ ppm} \\
 & V2 & = 6,54 \mu\text{l} \rightarrow 6,5 \mu\text{l} \\
 \text{Konsentrasi 15 ppm} & & \\
 V1 \cdot N1 & = & V2 \cdot N2 \\
 10.000 \mu\text{l} \cdot 15 \text{ ppm} & = & V2 \cdot 15270,5 \text{ ppm} \\
 & V2 & = 9,82 \mu\text{l} \rightarrow 9,8 \mu\text{l} \\
 \text{Konsentrasi 20 ppm} & & \\
 V1 \cdot N1 & = & V2 \cdot N2 \\
 10.000 \mu\text{l} \cdot 20 \text{ ppm} & = & V2 \cdot 15270,5 \text{ ppm} \\
 & V2 & = 13,09 \mu\text{l} \rightarrow 13,1 \mu\text{l} \\
 \text{Konsentrasi 25 ppm} & & \\
 V1 \cdot N1 & = & V2 \cdot N2 \\
 10.000 \mu\text{l} \cdot 25 \text{ ppm} & = & V2 \cdot 15270,5 \text{ ppm} \\
 & V2 & = 16,37 \mu\text{l} \rightarrow 16,4 \mu\text{l}
 \end{array}$$

➤ **Uji Antioksidan Minyak Zaitun**

Diketahui IC50 Minyak Zaitun sebesar 1076,137 $\mu\text{g/mL}$

Perhitungan

$$\begin{array}{rcl}
 V1 \cdot N1 & = & V2 \cdot N2 \\
 10.000 \mu\text{l} \cdot (1076,137 \text{ ppm} \times 2) & = & V2 \cdot 100.000 \text{ ppm} \\
 & V2 & = 215,2274 \mu\text{l} \\
 \\
 V1 \cdot N1 & = & V2 \cdot N2 \\
 215,2274 \mu\text{l} \cdot 100.000 \text{ ppm} & = & 10.000 \mu\text{l} \cdot N2
 \end{array}$$

$$N2 = 2152,274 \text{ ppm}$$

Konsentrasi 5 ppm

$$V1 \cdot N1 = V2 \cdot N2$$

$$10.000 \mu\text{l} \cdot 5 \text{ ppm} = V2 \cdot 2152,274 \text{ ppm}$$

$$V2 = 23,23 \mu\text{l} \rightarrow 23,2 \mu\text{l}$$

Konsentrasi 10 ppm

$$V1 \cdot N1 = V2 \cdot N2$$

$$10.000 \mu\text{l} \cdot 10 \text{ ppm} = V2 \cdot 2152,274 \text{ ppm}$$

$$V2 = 46,46 \mu\text{l} \rightarrow 46,5 \mu\text{l}$$

Konsentrasi 15 ppm

$$V1 \cdot N1 = V2 \cdot N2$$

$$10.000 \mu\text{l} \cdot 15 \text{ ppm} = V2 \cdot 2152,274 \text{ ppm}$$

$$V2 = 69,69 \mu\text{l} \rightarrow 69,7 \mu\text{l}$$

Konsentrasi 20 ppm

$$V1 \cdot N1 = V2 \cdot N2$$

$$10.000 \mu\text{l} \cdot 20 \text{ ppm} = V2 \cdot 2152,274 \text{ ppm}$$

$$V2 = 92,92 \mu\text{l} \rightarrow 92,9 \mu\text{l}$$

Konsentrasi 25 ppm

$$V1 \cdot N1 = V2 \cdot N2$$

$$10.000 \mu\text{l} \cdot 25 \text{ ppm} = V2 \cdot 2152,274 \text{ ppm}$$

$$V2 = 116,156 \mu\text{l} \rightarrow 116,2 \mu\text{l}$$

➤ Uji Antioksidan Kombinasi Ekstrak Buah Tin dan Minyak Zaitun

Perbandingan 1:1

Diketahui IC_{50} kombinasi ekstrak buah tin dan minyak zaitun

perbandingan 1:1 sebesar 576,459 $\mu\text{g/mL}$

Perhitungan 50% Ekstrak Buah Tin

$$V1 \cdot N1 = V2 \cdot N2$$

$$10.000 \mu\text{l} \cdot (50\% IC_{50} \text{ kombinasi} \times 2) = V2 \cdot 100.000 \text{ ppm}$$

$$10.000 \mu\text{l} \cdot (288,2295 \text{ ppm} \times 2) = V2 \cdot 100.000 \text{ ppm}$$

$$V2 = 57,6459 \mu\text{l}$$

Perhitungan 50% Minyak Zaitun

$$\begin{aligned}
 V1 \cdot N1 &= V2 \cdot N2 \\
 10.000 \mu\text{l} \cdot (50\% \text{ IC}_{50} \text{ kombinasi} \times 2) &= V2 \cdot 100.000 \text{ ppm} \\
 10.000 \mu\text{l} \cdot (288,2295 \times 2) &= V2 \cdot 100.000 \text{ ppm} \\
 V2 &= 57,6459 \mu\text{l}
 \end{aligned}$$

$$\begin{aligned}
 V1 \cdot N1 &= V2 \cdot N2 \\
 115,2918 \mu\text{l} \cdot 100.000 \text{ ppm} &= 10.000 \mu\text{l} \cdot N2 \\
 N2 &= 1152,92 \text{ ppm}
 \end{aligned}$$

Konsentrasi 5 ppm

$$\begin{aligned}
 V1 \cdot N1 &= V2 \cdot N2 \\
 10.000 \mu\text{l} \cdot 5 \text{ ppm} &= V2 \cdot 1152,92 \text{ ppm} \\
 V2 &= 43,37 \mu\text{l}
 \end{aligned}$$

Konsentrasi 10 ppm

$$\begin{aligned}
 V1 \cdot N1 &= V2 \cdot N2 \\
 10.000 \mu\text{l} \cdot 10 \text{ ppm} &= V2 \cdot 1152,92 \text{ ppm} \\
 V2 &= 86,74 \mu\text{l}
 \end{aligned}$$

Konsentrasi 15 ppm

$$\begin{aligned}
 V1 \cdot N1 &= V2 \cdot N2 \\
 10.000 \mu\text{l} \cdot 15 \text{ ppm} &= V2 \cdot 1152,92 \text{ ppm} \\
 V2 &= 130,10 \mu\text{l}
 \end{aligned}$$

Konsentrasi 20 ppm

$$\begin{aligned}
 V1 \cdot N1 &= V2 \cdot N2 \\
 10.000 \mu\text{l} \cdot 20 \text{ ppm} &= V2 \cdot 1152,92 \text{ ppm} \\
 V2 &= 173,47 \mu\text{l}
 \end{aligned}$$

Konsentrasi 25 ppm

$$\begin{aligned}
 V1 \cdot N1 &= V2 \cdot N2 \\
 10.000 \mu\text{l} \cdot 25 \text{ ppm} &= V2 \cdot 1152,92 \text{ ppm} \\
 V2 &= 216,84 \mu\text{l}
 \end{aligned}$$

2. Hasil Absorbansi Ekstrak Buah Tin, Minyak Zaitun, dan Kombinasi

1:1

a. Ekstrak Buah Tin

Tabel 14. Data Absorbansi ekstrak buah tin

Konsentrasi (ppm)	Absorbansi		
	I	II	III
5	0,9261	0,9274	0,9262
10	0,911	0,9155	0,9188
15	0,9085	0,9071	0,9075
20	0,884	0,8841	0,8853
25	0,876	0,876	0,8764
DPPH	1,2236		

b. Minyak Zaitun

Tabel 15. Data Absorbansi minyak zaitun

Konsentrasi (ppm)	Absorbansi		
	I	II	III
5	0,9353	0,9351	0,9354
10	0,9062	0,9075	0,9065
15	0,8869	0,8871	0,887
20	0,8685	0,8694	0,8692
25	0,8586	0,8586	0,8599
DPPH	1,2236		

c. Kombinasi Tin dan Minyak Zaitun dengan Perbandingan 1:1

Tabel 16. Data Absorbansi Kombinasi Tin dan Minyak Zaitun dengan Perbandingan 1:1

Konsentrasi	Absorbansi
--------------------	-------------------

(ppm)	I	II	III
5	0,947	0,9451	0,9459
10	0,9206	0,9206	0,9212
15	0,9117	0,9110	0,9119
20	0,8853	0,8856	0,8857
25	0,8459	0,8466	0,8461
DPPH	1,2236		

3. Perhitungan % Inhibisi dari Ekstrak Buah Tin, Minyak Zaitun dan Kombinasi 1:1

$$\text{Aktivitas penangkal radikal bebas (\%)} = \frac{1 - \text{Absorbansi Sampel}}{\text{Absorbansi Kontrol}} \times 100\%$$

➤ Perhitungan % Inhibisi Ekstrak Buah Tin

Replikasi 1

$$\begin{aligned} \text{\% Inhibisi 5 ppm} &= \frac{1 - \text{Absorbansi Sampel}}{\text{Absorbansi Kontrol}} \times 100\% \\ &= \frac{1 - 0,9261}{1,2236} \times 100\% \\ &= 24,3135 \end{aligned}$$

$$\begin{aligned} \text{\% Inhibisi 10 ppm} &= \frac{1 - \text{Absorbansi Sampel}}{\text{Absorbansi Kontrol}} \times 100\% \\ &= \frac{1 - 0,911}{1,2236} \times 100\% \\ &= 25,5476 \end{aligned}$$

$$\begin{aligned} \text{\% Inhibisi 15 ppm} &= \frac{1 - \text{Absorbansi Sampel}}{\text{Absorbansi Kontrol}} \times 100\% \\ &= \frac{1 - 0,9085}{1,2236} \times 100\% \\ &= 25,7519 \end{aligned}$$

$$\begin{aligned} \text{\% Inhibisi 20 ppm} &= \frac{1 - \text{Absorbansi Sampel}}{\text{Absorbansi Kontrol}} \times 100\% \\ &= \frac{1 - 0,884}{1,2236} \times 100\% \\ &= 27,7542 \end{aligned}$$

$$\begin{aligned} \text{\% Inhibisi 25 ppm} &= \frac{1 - \text{Absorbansi Sampel}}{\text{Absorbansi Kontrol}} \times 100\% \\ &= \frac{1 - 0,876}{1,2236} \times 100\% \end{aligned}$$

$$= 28,4080$$

Replikasi 2

% Inhibisi 5 ppm $= \frac{1 - \text{Absorbansi Sampel}}{\text{Absorbansi Kontrol}} \times 100\%$

$$= \frac{1 - 0,9274}{1,2236} \times 100\%$$

$$= 24,2073$$

% Inhibisi 10 ppm $= \frac{1 - \text{Absorbansi Sampel}}{\text{Absorbansi Kontrol}} \times 100\%$

$$= \frac{1 - 0,9155}{1,2236} \times 100\%$$

$$= 25,1798$$

% Inhibisi 15 ppm $= \frac{1 - \text{Absorbansi Sampel}}{\text{Absorbansi Kontrol}} \times 100\%$

$$= \frac{1 - 0,9071}{1,2236} \times 100\%$$

$$= 25,8663$$

% Inhibisi 20 ppm $= \frac{1 - \text{Absorbansi Sampel}}{\text{Absorbansi Kontrol}} \times 100\%$

$$= \frac{1 - 0,8841}{1,2236} \times 100\%$$

$$= 27,7460$$

% Inhibisi 25 ppm $= \frac{1 - \text{Absorbansi Sampel}}{\text{Absorbansi Kontrol}} \times 100\%$

$$= \frac{1 - 0,876}{1,2236} \times 100\%$$

$$= 28,4080$$

Replikasi 3

% Inhibisi 5 ppm $= \frac{1 - \text{Absorbansi Sampel}}{\text{Absorbansi Kontrol}} \times 100\%$

$$= \frac{1 - 0,9262}{1,2236} \times 100\%$$

$$= 24,3053$$

% Inhibisi 10 ppm $= \frac{1 - \text{Absorbansi Sampel}}{\text{Absorbansi Kontrol}} \times 100\%$

$$= \frac{1 - 0,9188}{1,2236} \times 100\%$$

$$= 24,9101$$

% Inhibisi 15 ppm $= \frac{1 - \text{Absorbansi Sampel}}{\text{Absorbansi Kontrol}} \times 100\%$

$$= \frac{1 - 0,9075}{1,2236} \times 100\%$$

$$= 25,8336$$

$$\% \text{ Inhibisi 20 ppm} = \frac{1 - \text{Absorbansi Sampel}}{\text{Absorbansi Kontrol}} \times 100\%$$

$$= \frac{1 - 0,8853}{1,2236} \times 100\%$$

$$= 27,6479$$

$$\% \text{ Inhibisi 25 ppm} = \frac{1 - \text{Absorbansi Sampel}}{\text{Absorbansi Kontrol}} \times 100\%$$

$$= \frac{1 - 0,8764}{1,2236} \times 100\%$$

$$= 28,3753$$

Konsentrasi (ppm)	% Inhibisi Ekstrak Buah Tin			Rerata % Inhibisi	SD
	Replikasi 1	Replikasi 2	Replikasi 3		
5 ppm	24,3135	24,2073	24,3053	24,2754	0,0591
10 ppm	25,5476	25,1798	24,9101	25,2125	0,3200
15 ppm	25,7519	25,8663	25,8336	25,8173	0,0589
20 ppm	27,7542	27,7460	27,6479	27,7160	0,0591
25 ppm	28,4080	28,4080	28,3753	28,3971	0,0189

➤ Perhitungan % Inhibisi Minyak Zaitun

Replikasi 1

$$\% \text{ Inhibisi 5 ppm} = \frac{1 - \text{Absorbansi Sampel}}{\text{Absorbansi Kontrol}} \times 100\%$$

$$= \frac{1 - 0,9353}{1,2236} \times 100\%$$

$$= 23,5616$$

$$\% \text{ Inhibisi 10 ppm} = \frac{1 - \text{Absorbansi Sampel}}{\text{Absorbansi Kontrol}} \times 100\%$$

$$= \frac{1 - 0,9062}{1,2236} \times 100\%$$

$$= 25,9398$$

$$\% \text{ Inhibisi 15 ppm} = \frac{1 - \text{Absorbansi Sampel}}{\text{Absorbansi Kontrol}} \times 100\%$$

$$= \frac{1 - 0,8869}{1,2236} \times 100\%$$

$$\begin{aligned}
 &= 27,5172 \\
 \% \text{ Inhibisi 20 ppm} &= \frac{1 - \text{Absorbansi Sampel}}{\text{Absorbansi Kontrol}} \times 100\% \\
 &= \frac{1 - 0,8685}{1,2236} \times 100\% \\
 &= 29,0209 \\
 \% \text{ Inhibisi 25 ppm} &= \frac{1 - \text{Absorbansi Sampel}}{\text{Absorbansi Kontrol}} \times 100\% \\
 &= \frac{1 - 0,8586}{1,2236} \times 100\% \\
 &= 29,8300 \\
 \text{Replikasi 2} \\
 \% \text{ Inhibisi 5 ppm} &= \frac{1 - \text{Absorbansi Sampel}}{\text{Absorbansi Kontrol}} \times 100\% \\
 &= \frac{1 - 0,9351}{1,2236} \times 100\% \\
 &= 23,5780 \\
 \% \text{ Inhibisi 10 ppm} &= \frac{1 - \text{Absorbansi Sampel}}{\text{Absorbansi Kontrol}} \times 100\% \\
 &= \frac{1 - 0,9075}{1,2236} \times 100\% \\
 &= 25,8336 \\
 \% \text{ Inhibisi 15 ppm} &= \frac{1 - \text{Absorbansi Sampel}}{\text{Absorbansi Kontrol}} \times 100\% \\
 &= \frac{1 - 0,8871}{1,2236} \times 100\% \\
 &= 27,5008 \\
 \% \text{ Inhibisi 20 ppm} &= \frac{1 - \text{Absorbansi Sampel}}{\text{Absorbansi Kontrol}} \times 100\% \\
 &= \frac{1 - 0,8694}{1,2236} \times 100\% \\
 &= 28,9474 \\
 \% \text{ Inhibisi 25 ppm} &= \frac{1 - \text{Absorbansi Sampel}}{\text{Absorbansi Kontrol}} \times 100\% \\
 &= \frac{1 - 0,8586}{1,2236} \times 100\% \\
 &= 29,8300 \\
 \text{Replikasi 3} \\
 \% \text{ Inhibisi 5 ppm} &= \frac{1 - \text{Absorbansi Sampel}}{\text{Absorbansi Kontrol}} \times 100\%
 \end{aligned}$$

$$= \frac{1 - 0,9354}{1,2236} \times 100\%$$

$$= 23,5534$$

$$\% \text{ Inhibisi 10 ppm} = \frac{1 - \text{Absorbansi Sampel}}{\text{Absorbansi Kontrol}} \times 100\%$$

$$= \frac{1 - 0,9065}{1,2236} \times 100\%$$

$$= 25,9153$$

$$\% \text{ Inhibisi 15 ppm} = \frac{1 - \text{Absorbansi Sampel}}{\text{Absorbansi Kontrol}} \times 100\%$$

$$= \frac{1 - 0,887}{1,2236} \times 100\%$$

$$= 27,5090$$

$$\% \text{ Inhibisi 20 ppm} = \frac{1 - \text{Absorbansi Sampel}}{\text{Absorbansi Kontrol}} \times 100\%$$

$$= \frac{1 - 0,8692}{1,2236} \times 100\%$$

$$= 28,9637$$

$$\% \text{ Inhibisi 25 ppm} = \frac{1 - \text{Absorbansi Sampel}}{\text{Absorbansi Kontrol}} \times 100\%$$

$$= \frac{1 - 0,8599}{1,2236} \times 100\%$$

$$= 29,7238$$

Konsentrasi (ppm)	% Inhibisi Minyak Zaitun			Rerata % Inhibisi	SD
	Replikasi 1	Replikasi 2	Replikasi 3		
5 ppm	23,5616	23,5780	23,5534	23,5643	0,0125
10 ppm	25,9398	25,8336	25,9153	25,8963	0,0556
15 ppm	27,5172	27,5008	27,5090	27,5090	0,0082
20 ppm	29,0209	28,9474	28,9637	28,9773	0,0386
25 ppm	29,8300	29,8300	29,7238	29,7946	0,0613

➤ Perhitungan % Inhibisi Kombinasi Ekstrak Buah Tin dan Minyak Zaitun

Perbandingan 1:1

Replikasi 1

$$\% \text{ Inhibisi 5 ppm} = \frac{1 - \text{Absorbansi Sampel}}{\text{Absorbansi Kontrol}} \times 100\%$$

$$\begin{aligned}
&= \frac{1 - 0,947}{1,2236} \times 100\% \\
&= 22,6054 \\
\% \text{ Inhibisi 10 ppm} &= \frac{1 - \text{Absorbansi Sampel}}{\text{Absorbansi Kontrol}} \times 100\% \\
&= \frac{1 - 0,9206}{1,2236} \times 100\% \\
&= 24,7630 \\
\% \text{ Inhibisi 15 ppm} &= \frac{1 - \text{Absorbansi Sampel}}{\text{Absorbansi Kontrol}} \times 100\% \\
&= \frac{1 - 0,9117}{1,2236} \times 100\% \\
&= 25,4904 \\
\% \text{ Inhibisi 20 ppm} &= \frac{1 - \text{Absorbansi Sampel}}{\text{Absorbansi Kontrol}} \times 100\% \\
&= \frac{1 - 0,8853}{1,2236} \times 100\% \\
&= 27,6479 \\
\% \text{ Inhibisi 25 ppm} &= \frac{1 - \text{Absorbansi Sampel}}{\text{Absorbansi Kontrol}} \times 100\% \\
&= \frac{1 - 0,8459}{1,2236} \times 100\% \\
&= 30,8679 \\
\text{Replikasi 2} \\
\% \text{ Inhibisi 5 ppm} &= \frac{1 - \text{Absorbansi Sampel}}{\text{Absorbansi Kontrol}} \times 100\% \\
&= \frac{1 - 0,9451}{1,2236} \times 100\% \\
&= 22,7607 \\
\% \text{ Inhibisi 10 ppm} &= \frac{1 - \text{Absorbansi Sampel}}{\text{Absorbansi Kontrol}} \times 100\% \\
&= \frac{1 - 0,9206}{1,2236} \times 100\% \\
&= 24,7630 \\
\% \text{ Inhibisi 15 ppm} &= \frac{1 - \text{Absorbansi Sampel}}{\text{Absorbansi Kontrol}} \times 100\% \\
&= \frac{1 - 0,9110}{1,2236} \times 100\% \\
&= 25,5476 \\
\% \text{ Inhibisi 20 ppm} &= \frac{1 - \text{Absorbansi Sampel}}{\text{Absorbansi Kontrol}} \times 100\%
\end{aligned}$$

$$= \frac{1 - 0,8856}{1,2236} \times 100\%$$

$$= 27,6234$$

$$\% \text{ Inhibisi 25 ppm} = \frac{1 - \text{Absorbansi Sampel}}{\text{Absorbansi Kontrol}} \times 100\%$$

$$= \frac{1 - 0,8466}{1,2236} \times 100\%$$

$$= 30,8107$$

Replikasi 3

$$\% \text{ Inhibisi 5 ppm} = \frac{1 - \text{Absorbansi Sampel}}{\text{Absorbansi Kontrol}} \times 100\%$$

$$= \frac{1 - 0,9459}{1,2236} \times 100\%$$

$$= 22,6953$$

$$\% \text{ Inhibisi 10 ppm} = \frac{1 - \text{Absorbansi Sampel}}{\text{Absorbansi Kontrol}} \times 100\%$$

$$= \frac{1 - 0,9212}{1,2236} \times 100\%$$

$$= 24,7140$$

$$\% \text{ Inhibisi 15 ppm} = \frac{1 - \text{Absorbansi Sampel}}{\text{Absorbansi Kontrol}} \times 100\%$$

$$= \frac{1 - 0,9119}{1,2236} \times 100\%$$

$$= 25,4740$$

$$\% \text{ Inhibisi 20 ppm} = \frac{1 - \text{Absorbansi Sampel}}{\text{Absorbansi Kontrol}} \times 100\%$$

$$= \frac{1 - 0,8857}{1,2236} \times 100\%$$

$$= 27,6152$$

$$\% \text{ Inhibisi 25 ppm} = \frac{1 - \text{Absorbansi Sampel}}{\text{Absorbansi Kontrol}} \times 100\%$$

$$= \frac{1 - 0,8461}{1,2236} \times 100\%$$

$$= 30,8516$$

Konsentrasi (ppm)	% Inhibisi Kombinasi 3:1			Rerata % Inhibisi	SD
	Replikasi 1	Replikasi 2	Replikasi 3		
5 ppm	22,6054	22,7607	22,6953	22,6872	0,0780
10 ppm	24,7630	24,7630	24,7140	24,7466	0,0283

15 ppm	25,4904	25,5476	25,4740	25,5040	0,0386
20 ppm	27,6479	27,6234	27,6152	27,6289	0,0170
25 ppm	30,8679	30,8107	30,8516	30,8434	0,0295

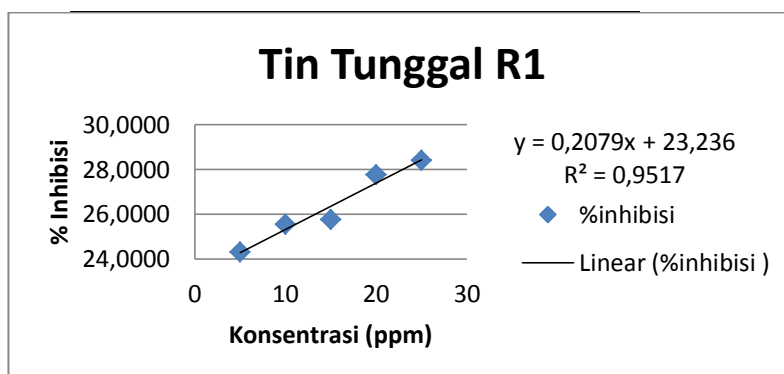
4. Kurva % Inhibisi Ekstrak Buah Tin, Minyak Zaitun, dan Kombinasi

Ekstrak Buah Tin dan Minyak Zaitun Perbandingan 1:1

➤ Kurva % Inhibisi Ekstrak Buah Tin

Replikasi 1

Konsentrasi (ppm)	% Inhibisi
5 ppm	24,3135
10 ppm	25,5476
15 ppm	25,7519
20 ppm	27,7542
25 ppm	28,4080

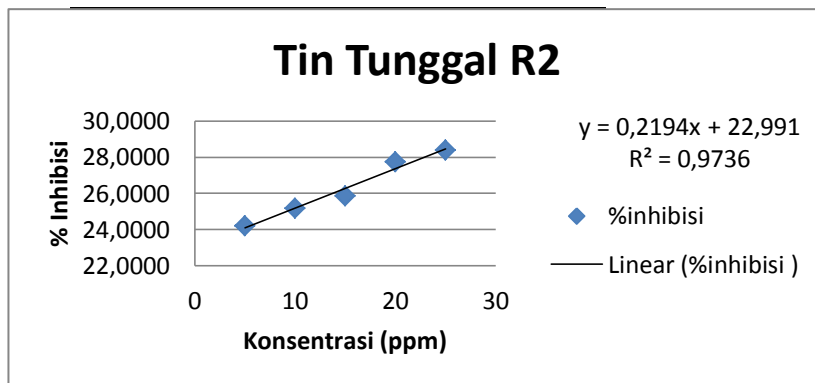


Replikasi 2

Konsentrasi (ppm)	% Inhibisi
5 ppm	24,2073
10 ppm	25,1798
15 ppm	25,8663

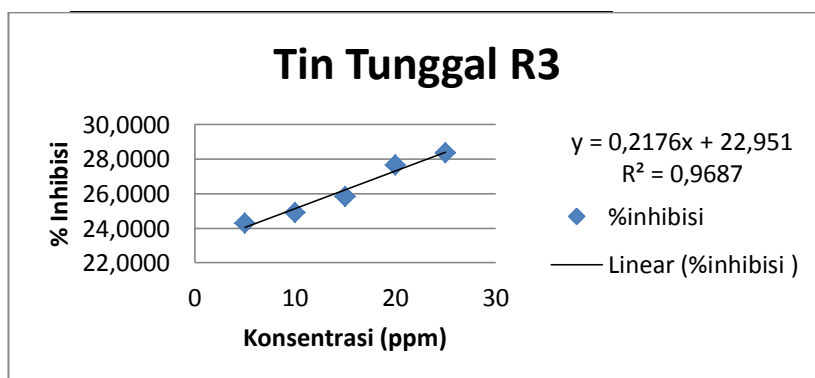
20 ppm 27,7460

25 ppm 28,4080



Replikasi 3

Konsentrasi (ppm)	% Inhibisi
5 ppm	24,3053
10 ppm	24,9101
15 ppm	25,8336
20 ppm	27,6479
25 ppm	28,3753

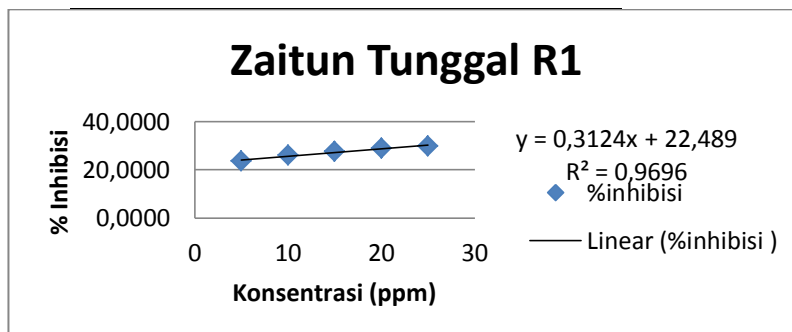


➤ Kurva % Inhibisi Minyak Zaitun

Replikasi 1

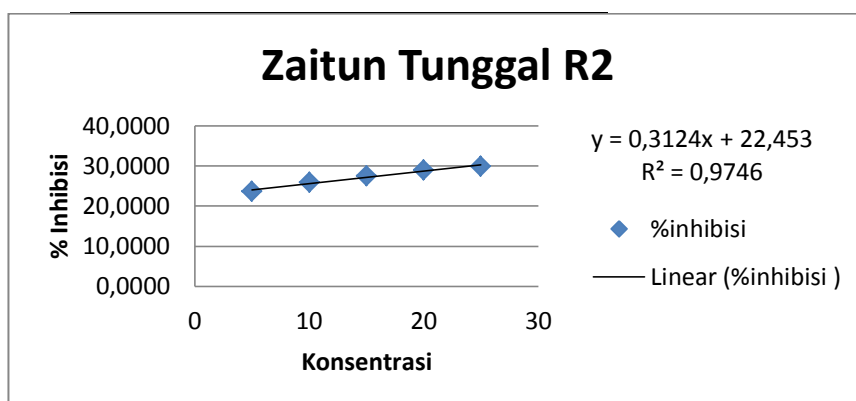
Konsentrasi (ppm)	% Inhibisi
5 ppm	23,5616
10 ppm	25,9398

15 ppm	27,5172
20 ppm	29,0209
25 ppm	29,8300



Replikasi 2

Konsentrasi (ppm)	% Inhibisi
5 ppm	23,5780
10 ppm	25,8336
15 ppm	27,5008
20 ppm	28,9474
25 ppm	29,8300

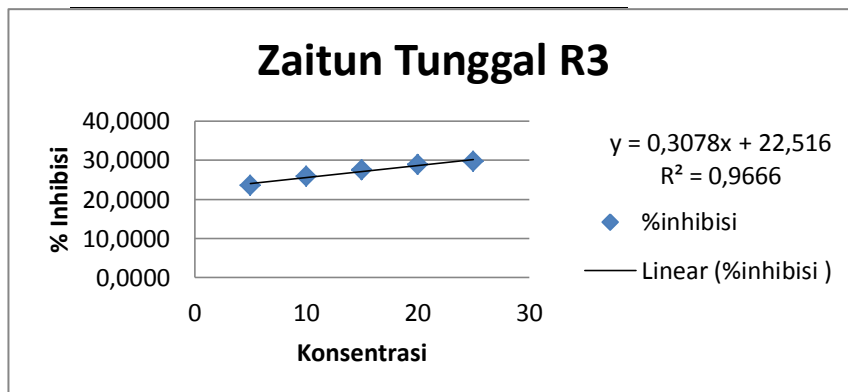


Replikasi 3

Konsentrasi (ppm)	% Inhibisi
5 ppm	23,5534
10 ppm	25,9153
15 ppm	27,5090

20 ppm 28,9637

25 ppm 29,7238

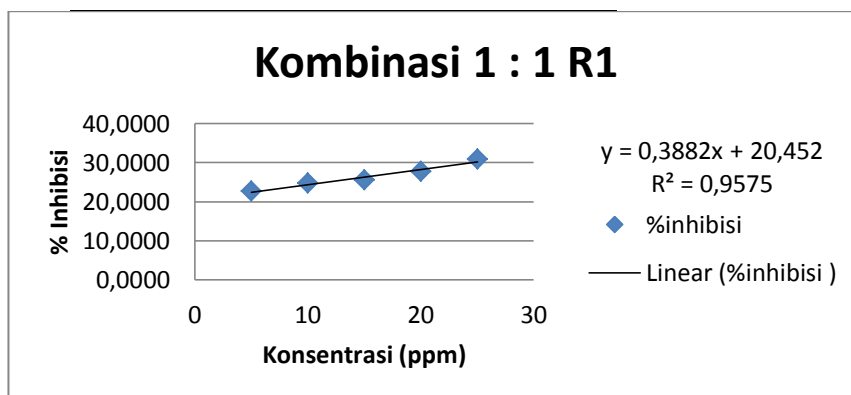


➤ Kurva % Inhibisi Kombinasi Ekstrak Buah Tin dan Minyak Zaitun

Perbandingan 1:1

Replikasi 1

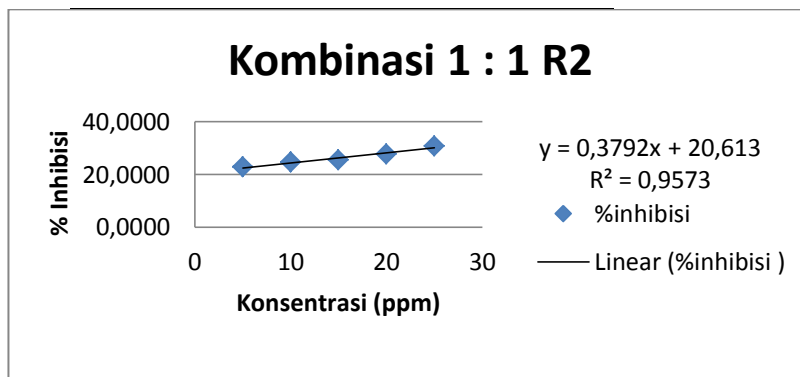
Konsentrasi (ppm)	% Inhibisi
5 ppm	22,6054
10 ppm	24,7630
15 ppm	25,4904
20 ppm	27,6479
25 ppm	30,8679



Replikasi 2

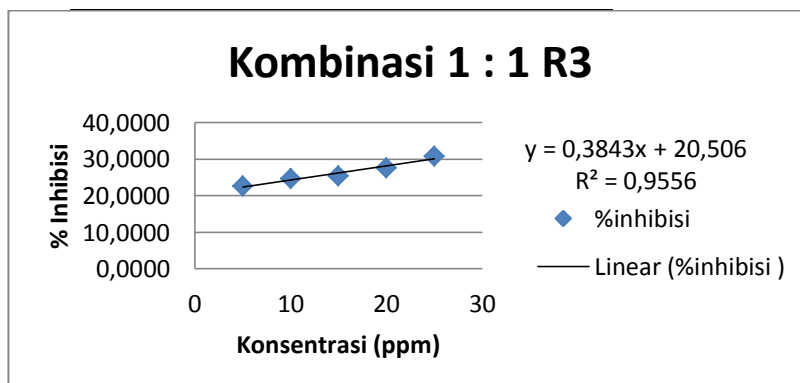
Konsentrasi (ppm)	% Inhibisi
5 ppm	22,7607
10 ppm	24,7630

15 ppm	25,5476
20 ppm	27,6234
25 ppm	30,8107



Replikasi 3

Konsentrasi (ppm)	% Inhibisi
5 ppm	22,6953
10 ppm	24,7140
15 ppm	25,4740
20 ppm	27,6152
25 ppm	30,8516



5. Hasil IC₅₀ Uji Antioksidan Ekstrak Buah Tin, Minyak Zaitun, dan

Kombinasi Ekstrak Buah Tin dan Minyak Zaitun Perbandingan 1:1

➤ Hasil IC₅₀ Uji Antioksidan Ekstrak Buah Tin

Replikasi	Regresi Linier			Persamaan	IC ₅₀
	a	b	r		

1	23,236	0,2079	0,9517	$Y = 0,2079x + 23,236$	128,7350
2	22,991	0,2194	0,9736	$Y = 0,2194x + 22,991$	123,1039
3	22,951	0,2176	0,9687	$Y = 0,2176x + 22,951$	124,3061

➤ Hasil IC₅₀ Uji Antioksidan Minyak Zaitun

Replikasi	Regresi Linier			Persamaan	IC ₅₀
	a	b	r		
1	22,489	0,3124	0,9696	$Y = 0,3124x + 22,489$	88,0634
2	22,453	0,3214	0,9746	$Y = 0,3124x + 22,453$	85,7094
3	22,516	0,3078	0,9666	$Y = 0,3078x + 22,516$	89,2917

➤ Hasil IC₅₀ Uji Antioksidan Kombinasi Ekstrak Buah Tin dan Minyak Zaitun Perbandingan 1:1

Replikasi	Regresi Linier			Persamaan	IC ₅₀
	a	b	r		
1	20,452	0,3882	0,9575	$Y = 0,3882x + 20,452$	76,1154
2	20,613	0,3792	0,9573	$Y = 0,3792x + 20,613$	77,4974
3	20,506	0,3843	0,9556	$Y = 0,3843x + 20,506$	76,7473

➤ Kesimpulan

Replikasi	IC ₅₀		
	Ekstrak Buah Tin	Minyak Zaitun	Kombinasi

			Perbandingan 1:1
I	128,7350	88,0634	76,1154
II	123,1039	85,7094	77,4974
III	124,3061	89,2917	76,7473
Rerata	125,3817	87,6882	76,7867
SD	2,9656	1,8204	0,6918
Rerata ±			
SD	125,3817 ± 2,9656	87,6882 ± 1,8204	76,7867 ± 0,6918

Lampiran 15. Surat Bebas Laboratorium Parasitologi UGM



UNIVERSITAS GADJAH MADA
FAKULTAS KEDOKTERAN, KESEHATAN MASYARAKAT, DAN KEPERAWATAN
DEPARTEMEN PARASITOLOGI
Gedung Prof. Drs. R. Radiopoetro Lt. IV Sayap Timur, Sekip, Yogyakarta 55281
Telp. (0274) 546215. Fax. 546215. E-mail : parasitkugm@yahoo.com

SURAT KETERANGAN No. 226/UN1/KU.3/PRST.2/LT/2018

Yang bertanda tangan di bawah ini,

Ketua Departemen Parasitologi Fakultas Kedokteran Universitas Gadjah Mada Yogyakarta,
menerangkan dengan sesungguhnya bahwa :

Nama : MEMI TIASTUTI
NIM. : 33101400306
Instansi : Program Studi Farmasi Fakultas Kedokteran
Universitas Islam Sultan Agung
Semarang

Telah melakukan penelitian di Departemen Parasitologi FKMK UGM dengan judul :

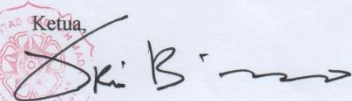
“UJI AKTIVITAS ANTIOKSIDAN DAN UJI SITOTOKSIK KOMBINASI EKSTRAK
BUAH TIN (*Ficus carica L.*) DAN MINYAK ZAITUN (*Olea europaea L.*) TERHADAP
SEL KANKER PAYUDARA MCF-7”

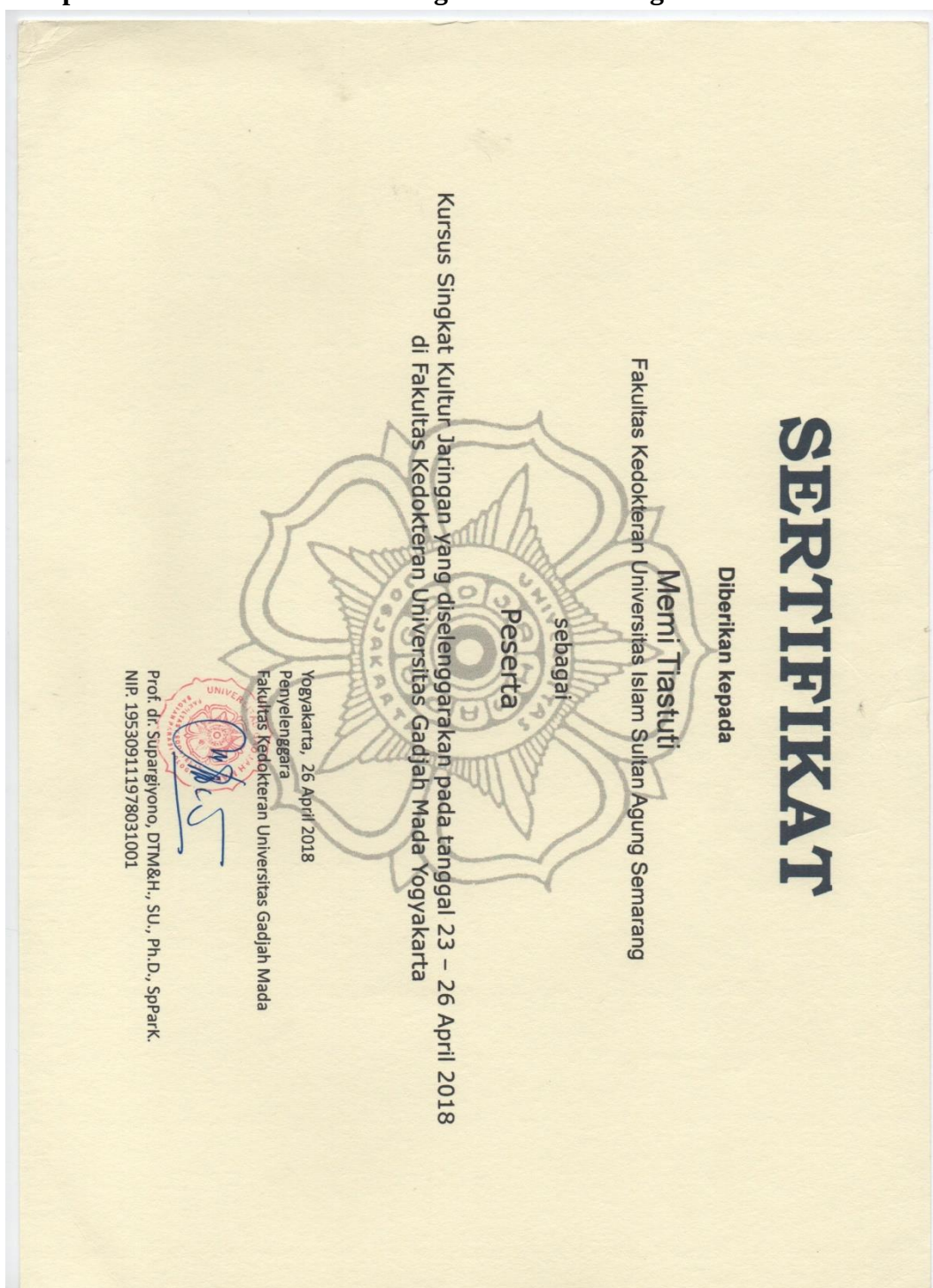
Dibawah supervisi laboratorium: Prof. dr. Supargiyono, DTM&H., SU., PhD., SpParK.
Waktu Penelitian: 14 Mei 2018 sampai dengan 28 Mei 2018

Urusan administrasi telah diselesaikan oleh yang bersangkutan dan fasilitas laboratorium
yang dipakai telah dikembalikan, dengan demikian dinyatakan **bebas laboratorium**.

Surat keterangan ini dibuat untuk dipergunakan sebagaimana mestinya.

Yogyakarta, 31 Mei 2018

Ketua,

dr. Tri Baskoro T. Satoto, MSc., PhD.
NIP. 19580412 198601 1 001.

Lampiran 16. Sertifikat Kursus Singkat Kultur Jaringan UGM

Lampiran 17. Dokumentasi Penelitian



Produk Buah Zaitun Kering



Produk Minyak Zaitun



Penimbangan Buah Tin Kering



Pengecilan Partikel Buah Tin



Maserasi



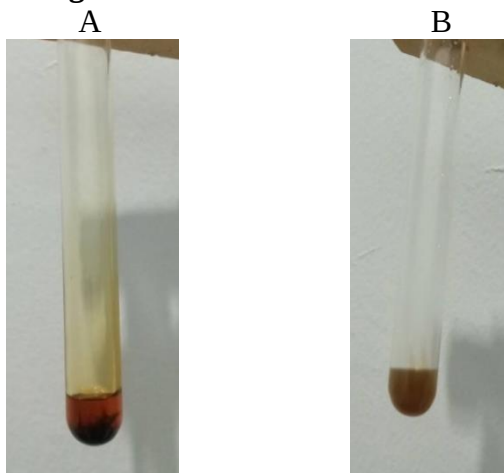
Penyaringan



Pengentalan Ekstrak Buah Tin
Skrining Fitokimia



Ekstrak Kental Buah Tin

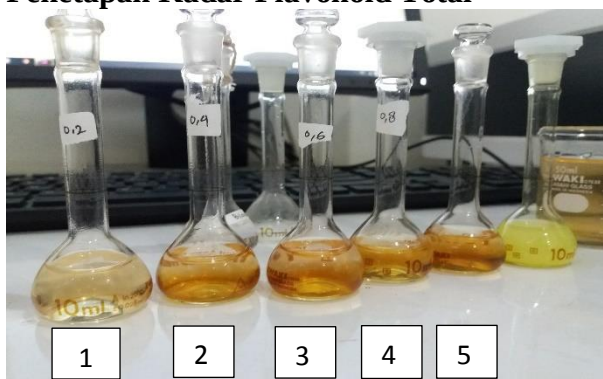


Keterangan :

A. Flavonoid Ekstrak Buah Tin

B. Flavonoid Minyak Zaitun

Penetapan Kadar Flavonoid Total



Keterangan :

1. 20 ppm

2. 40 ppm

3. 60 ppm

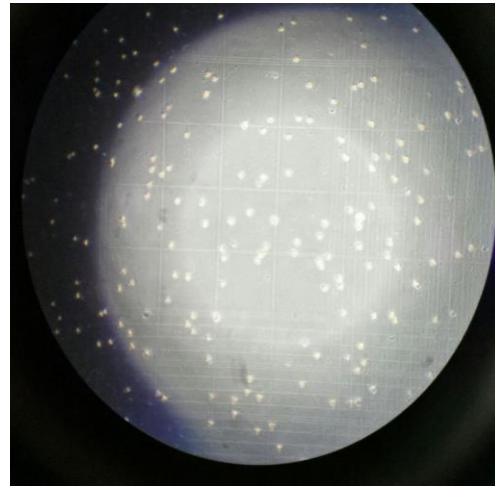
4. 80 ppm

5. 100 ppm

Uji Sitotoksik



Perhitungan sel HeLa



Pengamatan bilik hitung sel



Penanaman sel HeLa



Pembuangan media setelah proses inkubasi 24 jam



Treatment Sampel Uji



Penambahan MTT



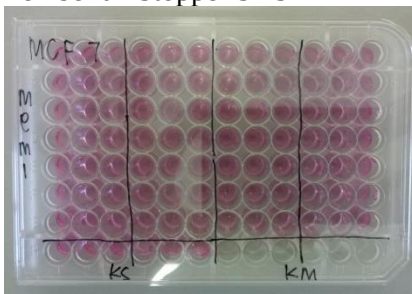
Proses Inkubasi



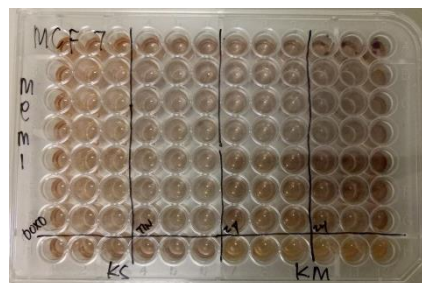
Pemberian Stopper SDS



Pembacaan hasil dengan ELISA Reader

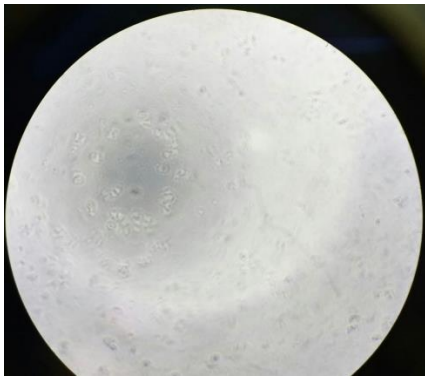


96 Well Plate (Penanaman Sel)



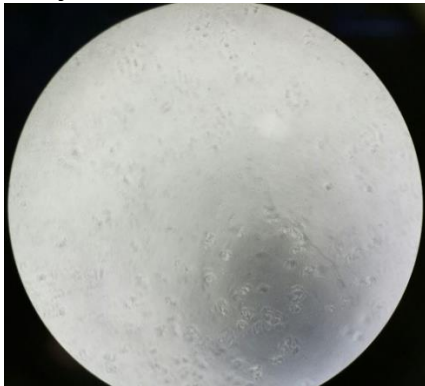
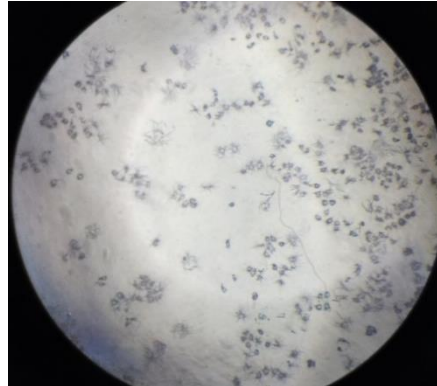
Pembacaan hasil dengan ELISA Reader

a. Ekstrak Buah Tin

Konsentrasi 1000 $\mu\text{g/mL}$ 

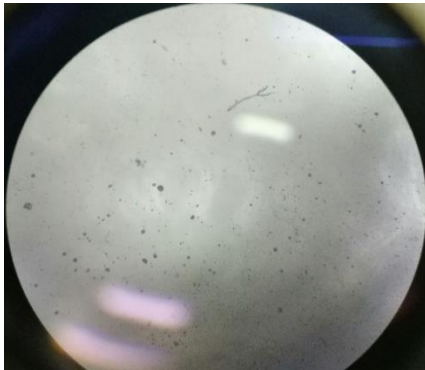
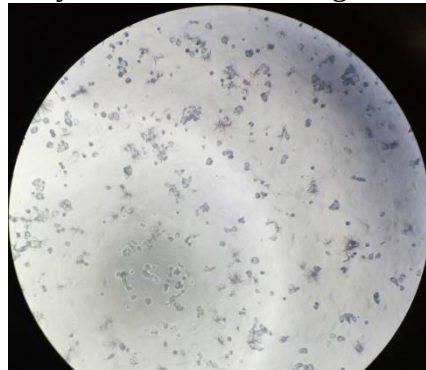
Setelah MTT

b. Minyak Zaitun

Konsentrasi 1000 $\mu\text{g/mL}$ 

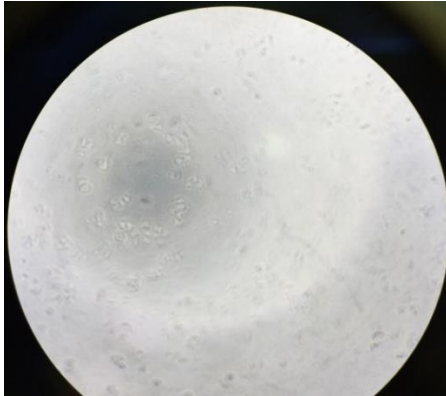
Setelah MTT

c. Kombinasi Ekstrak Buah Tin dan Minyak Zaitun Perbandingan 1:3

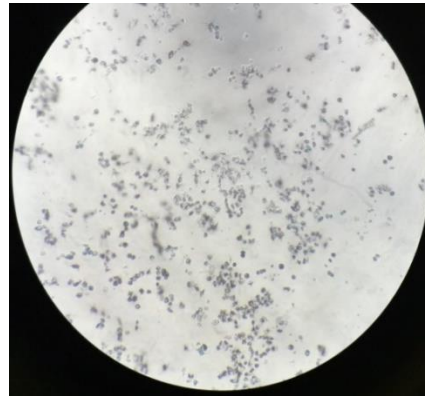
Konsentrasi 1000 $\mu\text{g/mL}$ 

Setelah MTT

d. Kombinasi Ekstrak Buah Tin dan Minyak Zaitun Perbandingan 1:1

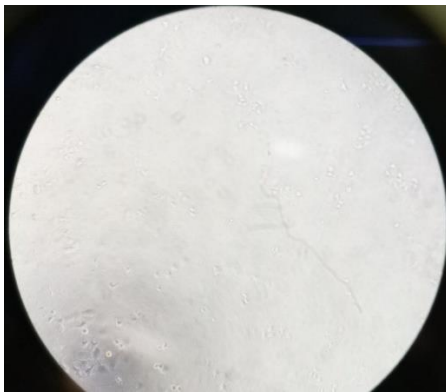


Konsentrasi 1000 $\mu\text{g/mL}$

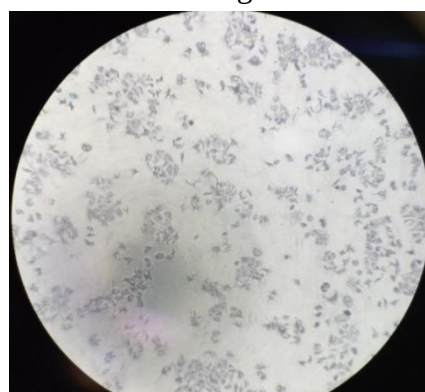


Setelah MTT

e. Kombinasi Ekstrak Buah Tin dan Minyak Zaitun Perbandingan 3:1

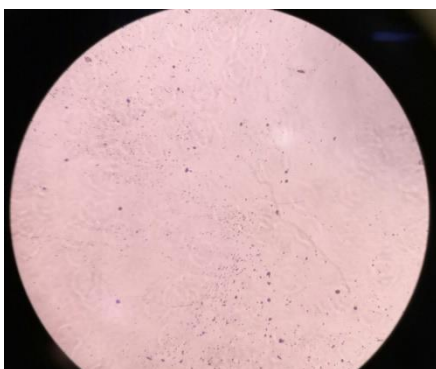


Konsentrasi 1000 $\mu\text{g/mL}$

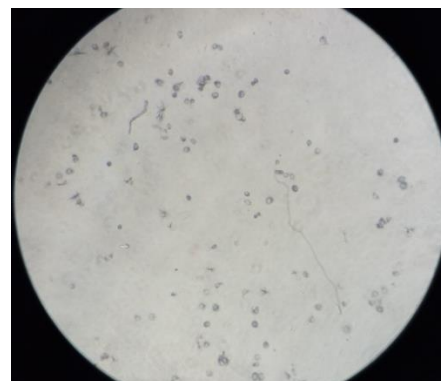


Setelah MTT

f. Kontrol Positif Doxorubicin



Konsentrasi 100 $\mu\text{g/mL}$

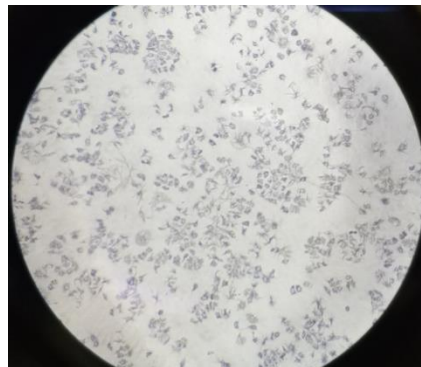


Setelah MTT

g. Kontrol Negatif Kontrol Sel



Kontrol sel



Setelah MTT

Penetapan Kadar Flavonoid Total

a. Ekstrak Buah Tin

Gambar 1. Penetapan Kadar Flavonoid Ekstrak Buah Tin



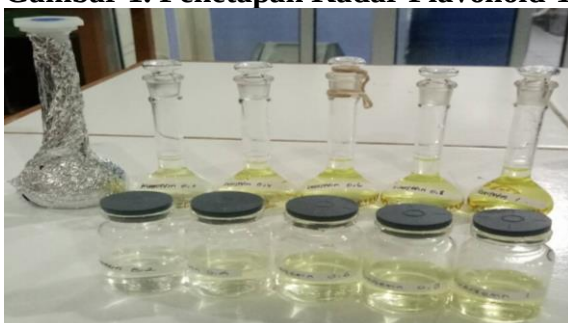
b. Minyak Zaitun

Gambar 1. Penetapan Kadar Flavonoid Total Minyak Zaitun



c. Larutan Standar Kuersetin

Gambar 1. Penetapan Kadar Flavonoid Total Larutan Standar Kuersetin



Uji Aktivitas Antioksidan Ekstrak Buah Tin, Minyak Zaitun Serta Kombinasi Tin dan Minyak Zaitun Dengan perbandingan 1:1



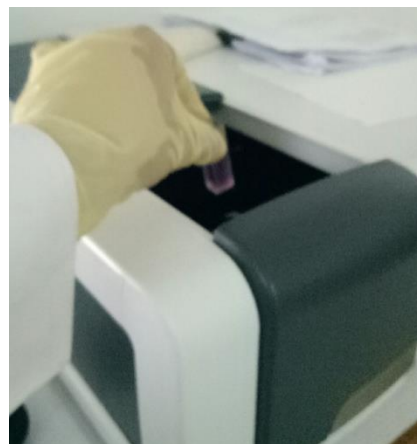
Penimbangan DPPH



Penimbangan Sampel Tin



Penimbangan Sampel Minyak Zaitun



Pembacaan Absorbansi



Ekstrak Buah Tin



Minyak Zaitun



Kombinasi Tin Zaitun 1:1